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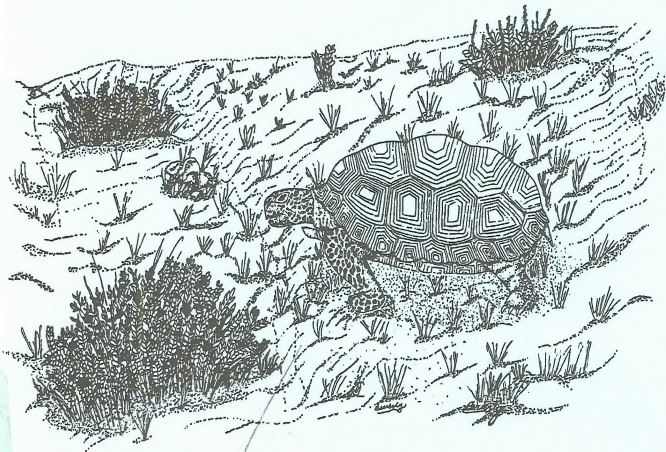
**United States Department of Interior
Bureau of Land Management**

Ely Field Office, Nevada

June 1999



**Proposed
Caliente Management Framework Plan
Amendment and
Final Environmental Impact Statement
for the Management
of Desert Tortoise Habitat**



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BLM Mission Statement

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times.

Management is based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife, wilderness, air and scenic, scientific and cultural values.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Nevada State Office
P.O. Box 12000 (1340 Financial Blvd.)
Reno, Nevada 89520-0006
<http://www.nv.blm.gov>



In Reply Refer To:
1610
(NV-040)

Dear Reader:

Enclosed for your information is the Proposed Caliente Management Framework Plan (MFP) Amendment and Final Environmental Impact Statement (EIS) for the Management of Desert Tortoise Habitat. This MFP amendment outlines goals and actions for Bureau of Land Management (BLM)-administered desert tortoise habitat in Lincoln County, Nevada. These goals and actions, some of which are recommended in the U.S. Fish and Wildlife Service's approved Desert Tortoise (Mojave Population) Recovery Plan, would assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit.

The planning area for this amendment consists of approximately 754,600 acres of public land in southern Lincoln County, administered by the Caliente Field Station, within BLM's Ely Field Office. No private lands would be directly affected by management direction described under the Proposed Action or alternatives. The planning area is located within the Northeastern Mojave Recovery Unit, as defined by the Recovery Plan. The document discusses several alternatives for the protection of desert tortoise habitat and recovery of the species.

The Proposed Amendment and EIS has been printed in accordance with the National Environmental Policy Act of 1969 and the Federal Land Policy and Management Act of 1976. This Proposed Amendment is carried forward from the Draft document and is presented in its entirety. This document contains an overview of the planning process and the planning issues, the Proposed Amendment and three other alternatives analyzed, revisions to the Draft text, written and verbal comments received during public review of the Draft Amendment, and responses to the public issues raised.

The Proposed Amendment may be protested by any person who participated in the planning process and who has an interest which is or may be adversely affected by the approval of the Proposed Amendment. A protest may raise only those issues which were submitted for the record during the planning process (see 43 Code of Federal Regulations § 1610.5-2). Protests must be filed with the Director, Bureau of Land Management, Attn. Ms. Brenda Williams, Protests Coordinator, WO-210/LS-1075, Department of the Interior, Washington, D.C. 20240.

All protests must be written and must be postmarked on or before July 16, 1999 and shall contain the following information:

- The name, mailing address, telephone number, and interest of the person filing the protest.
- A statement of the issue or issues being protested.
- A statement of the part or parts of the document being protested.
- A copy of all documents addressing the issue or issues previously submitted during the planning process by the protesting party, or an indication of the date the issue or issues were discussed for the record.
- A concise statement explaining precisely why the Bureau of Land Management Nevada State Director's decision is wrong.

Upon resolution of any protests, an Approved Plan Amendment and Record of Decision will be issued. The Approved Plan Amendment/Record of Decision will be mailed to all individuals who participated in this planning process and all other interested publics upon their request.

If you would like any additional information, please contact Gene L. Drais, Project Manager at (775) 289-1880.

Sincerely,

A handwritten signature in dark ink, appearing to read "Robert V. Abbey". The signature is fluid and cursive, with the first name "Robert" and last name "Abbey" clearly distinguishable.

Robert V. Abbey
State Director, Nevada

Attachment

1. Questions and Answers

**QUESTIONS AND ANSWERS FOR THE
PROPOSED PLAN AMENDMENT/FEIS**

Q. Why is the Bureau of Land Management preparing this document?

A. This document is being prepared so that the Bureau of Land Management (BLM) will be in compliance with the Endangered Species Act. Several steps led to the proposed land use plan amendment.

The desert tortoise was listed as a Threatened Species on April 2, 1990. The U.S. Fish and Wildlife Service (USFWS) subsequently identified critical habitat for the Desert Tortoise on February 8, 1994. Some of the identified critical habitat included public lands in Lincoln County, Nevada, administered by the BLM. The Desert Tortoise (Mojave Population) Recovery Plan was issued by the USFWS on June 28, 1994. It provided management actions needed to protect the desert tortoise.

Current direction for management of these lands is provided by a multiple use land use plan known as the "Caliente Management Framework Plan" (Caliente MFP), which was completed in 1983 (prior to listing of the desert tortoise).

The BLM compared the management actions proposed for recovery of the desert tortoise and the existing land uses allowed under the Caliente MFP. The need to make changes in some land uses to protect desert tortoise habitat resulted in the Proposed Plan Amendment.

Q. Is the Bureau of Land Management implementing everything included in the U.S. Fish and Wildlife Service's Desert Tortoise (Mojave Population) Recovery Plan?

A. Not all recommendations contained in the Desert Tortoise (Mojave Population) Recovery Plan are included for adoption in the Proposed Plan Amendment. The proposed action is an attempt to balance protection of desert tortoise habitat while minimizing adverse affects upon other traditional uses of the public lands. The Desert Tortoise (Mojave Population) Recovery Plan serves as a guideline to assist BLM in effective management of critical desert tortoise habitat, which will eventually contribute to recovery of the species.

Q. What does this Proposed Plan Amendment do?

A. The Proposed Plan Amendment delineates three Areas of Critical Environmental Concern for desert tortoise and protects desert tortoise habitat through specific management actions, while minimizing adverse affects upon traditional uses.

Q. Will any ranchers be put out of business if this plan is implemented?

A. Yes. The Moapa Band of Paiutes currently holds a grazing permit for an allotment which would be closed to livestock grazing under the Proposed Plan Amendment. Two other grazing allotments are proposed for closure. The affected ranchers have negotiated fair market purchases of their ranching operations. Funds to be used for the purchase would come from the Clark County Habitat Conservation Plan.

Q. Will any tax revenue be lost to Lincoln County if this Proposed Plan Amendment is implemented? If so, how much?

- A. Yes. Lincoln County annually assesses ranchers 28¢ per head for cattle (non-dairy), 75¢ per head for horses and 30¢ per head for sheep. Lincoln County could potentially lose up to an estimated \$380.45 in tax revenues annually if the Proposed Plan Amendment is adopted (410 cattle = \$114.80, 5 horses = \$3.75 and 873 sheep = \$261.90). The current situation, however, is less than the potential loss because the Rox-Tule and Beacon Allotments have been in non-use for the past several years. Therefore, they have not been taxed. The current estimated tax figures are: \$100.91 (347 cattle = \$97.16, 5 horses = \$3.75 and 0 sheep = \$0.00).
- Q. **How will motorized recreational events be affected if this Proposed Plan Amendment is implemented?**
- A. Vehicle travel would be limited throughout desert tortoise habitat to existing roads. Cross-country vehicle travel (off roads) would be illegal. Within ACECs, vehicle travel would be further restricted to those roads designated as "open" during a future public involvement process. The public process used to identify roads for vehicle travel within ACECs is intended to ensure continued access to meet public needs. Identification of "open" roads is intended to discourage "pioneering" or creation of new roads.
- Off-highway vehicle (OHV) organized events would also be limited to existing roads throughout desert tortoise habitat. No speed-based organized events would be allowed within ACECs, and non-speed organized events (or non-speed portions of speed events) would be allowed to pass through ACECs, except during the tortoise's most active periods (March 15 - June 15, and August 15 - October 15), on roads designated within this plan.
- Q. **Are there restrictions on other types of recreation?**
- A. No.
- Q. **Will citizen rights to bear and use firearms be affected?**
- A. No.
- Q. **How will mining be affected?**
- A. Lands within the Kane Springs ACEC would be closed to mineral entry. Mining activity within the Beaver Dam Slope and Mormon Mesa ACECs would be subject to approval of a mining plan of operations by the BLM and Section 7 consultation with the U.S. Fish and Wildlife Service.
- Q. **Where can I review a copy of the "Final Caliente Management Framework Plan Amendment For The Management of Desert Tortoise/Habitat Environmental Impact Statement"?**
- A. At Bureau of Land Management Offices in Caliente, Ely, Las Vegas and Reno, Nevada. Copies will also be sent to public libraries in Alamo, Caliente, Ely, Las Vegas, North Las Vegas, Mesquite, and Moapa and the Lincoln County High School library in Panaca.
- Q. **What is the next step in the planning process?**
- A. The Proposed Plan Amendment and Final EIS is issued which has incorporated comments to the Draft document. There is a 30 day public protest period regarding the Proposed Plan Amendment and Final EIS. An approved Plan Amendment and Record of Decision will be issued upon resolution of all protests.

Q. When will the decision be made?

A. The Record of Decision document is expected to be signed in calendar year 1999.

Q. What do I need to do to protect my right to protest the final decision if I am dissatisfied?

A. To develop protest rights on a land use plan, the affected party must show they have participated in the process. This usually means that they have commented on the document as required.

Q. How will we know when the desert tortoise is recovered?

A. The objective of the Desert Tortoise (Mojave Population) Recovery Plan is to recover and delist the desert tortoise. To assist in this recovery and delisting, the recovery plan outlined delisting criteria for recovery. Desert tortoise populations are only capable of very slow growth. Therefore, one delisting criteria states that if a desert tortoise population shows a statistically significant upward trend or remains stationary over a 25 year period (one desert tortoise generation) then delisting may be warranted. To achieve this stationary or increase in tortoise population size, sufficient habitat must also be protected along with regulatory mechanisms in place to allow for the recovery and long-term persistence of the desert tortoise. Delisting will be considered on a recovery unit basis. Monitoring methodologies have been developed and will be implemented to determine when delisting criteria is met. Also see the section labeled monitoring beginning on page 2-8 of this document.

Q. In Chapter 4 there is a wide range given for the estimated tortoise population in the Special Management Areas. Why is that?

A. This is due to the survey techniques employed. Even though the best survey techniques available are used in the collection of population size and/or density information for wild animal populations, not all of the animals can be counted. This is especially true in the case of tortoise populations where the animals spend a lot of their time below ground. That is why desert tortoise densities are given in ranges.

Q. Will allotment evaluations be conducted on allotments outside of the Special Management Areas?

A. Yes, allotment evaluations will be conducted in the future on those allotments outside of the ACECs.

Q. Will reductions/adjustments be made automatically when this amendment is finalized?

A. No, grazing decisions for each allotment will be issued which will implement this plan amendment.



**PROPOSED CALIENTE MANAGEMENT
FRAMEWORK PLAN AMENDMENT
AND ENVIRONMENTAL IMPACT STATEMENT
FOR THE MANAGEMENT OF
DESERT TORTOISE HABITAT**

() DRAFT

(X) FINAL

Lead Agency:

United States Department of the Interior
Bureau of Land Management

County Directly Affected:

Lincoln County, Nevada

Environmental Impact Statement Contact:

Correspondence on this Final Environmental Impact Statement
should be directed to:

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Project Manager
Ely Field Office
(775) 289-1800

Gene A. Kolkman, Field Manager
Bureau of Land Management, Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301-9408

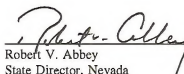
Date Final Environmental Impact Statement filed with United States Environmental Protection Agency:
June 11, 1999.

ABSTRACT

This Proposed Plan Amendment and Final Environmental Impact Statement for the Caliente Management Framework Plan would implement management goals and actions for Bureau of Land Management (BLM)-administered desert tortoise habitat in Lincoln County, Nevada. The Mojave desert tortoise (*Gopherus agassizii*) was listed as a threatened species in 1990, based on declining numbers in some areas of its range. These goals and actions, recommended in the U.S. Fish and Wildlife Service's approved Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994a), would assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit. This amendment is required to comply with the Endangered Species Act of 1973 which mandates that all federal agencies will conserve and recover listed species within their administrative units. The accompanying EIS satisfies the National Environmental Policy Act, which mandates that federal agencies analyze the environmental consequences of major undertakings.

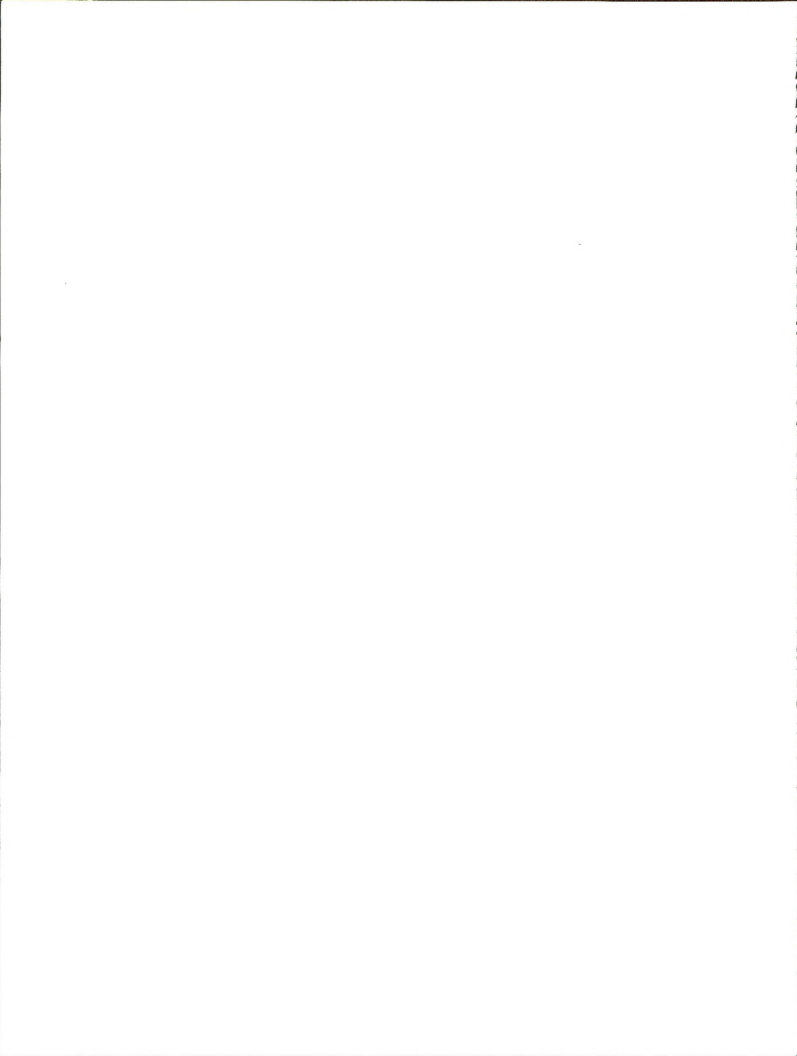
The planning area for this amendment consists of approximately 754,600 acres of public land in southern Lincoln County, administered by the Caliente Field Station, within BLM's Ely Field Office. No private lands would be directly affected by management direction described under the Proposed Action or alternatives. The planning area is located within the Northeastern Mojave Recovery Unit, as defined by the Recovery Plan.

Official Responsible for the Plan Amendment and the Environmental Impact Statement:


Robert V. Abbey
State Director, Nevada

Date

6-11-99



SUMMARY

The Mojave population of the desert tortoise (*Gopherus agassizii*) was listed by the U.S. Fish and Wildlife Service (USFWS) as a threatened species in 1990 under the Endangered Species Act of 1973 (ESA), as amended, based on declining numbers in portions of its range and regional habitat loss and degradation. This Proposed Amendment and Final Environmental Impact Statement for the Caliente Management Framework (MFP) proposes direction for implementation of goals and actions on desert tortoise habitat administered by the Bureau of Land Management in Lincoln County, Nevada. The MFP amendment complies with the Endangered Species Act of 1973 (ESA), as amended, which mandates that all federal agencies will conserve and recover ESA listed species occurring within their administrative units. The proposed goals and actions herein are consistent with recommendations made in the **Desert Tortoise (Mojave Population) Recovery Plan** (Recovery Plan; USFWS 1994a) for assisting with recovery and delisting of populations in the Northeastern Mojave Recovery Unit. The accompanying Environmental Impact Statement satisfies mandates of the National Environmental Policy Act (NEPA) for federal agencies to analyze environmental consequences of major federal actions.

The planning area for this amendment consists of approximately 754,600 acres of public land in southern Lincoln County, administered by the Caliente Field Station, within BLM's Ely Field Office. No private lands would be directly affected by management direction described under the Proposed Action or alternatives. The planning area is located within the Northeastern Mojave Recovery Unit, as defined by the Recovery Plan.

Purpose and Need

The purpose of this amendment is to assist the recovery and delisting of the Mojave desert tortoise in the Northeastern Mojave Recovery Unit within the context of BLM's multiple use mandate. The plan is needed to implement site specific aspects from the recommended goals and actions in the **Desert Tortoise (Mojave Population) Recovery Plan**.

Proposed Action

The Proposed Action would assist desert tortoise recovery, while minimizing effects on human activities that occur on public lands. It includes recommendations derived from the Recovery Plan and public input, as well as management actions designed to be consistent, or at least compatible, with those proposed by adjacent BLM Field Offices. The Proposed Action would: 1) designate three Areas of Critical Environmental Concern (ACECs); 2) implement management prescriptions for desert tortoise habitat inside and outside of the ACECs; 3) ensure BLM participation in USFWS-developed environmental education programs; and 4) implement a USFWS-approved interagency monitoring program (Line Distance Sampling). The three ACECs, totaling 212,500 acres, would protect 83 percent of designated critical habitat within Lincoln County. Management prescriptions, designed to improve desert tortoise habitat, would modify or restrict some multiple uses, including livestock grazing, off-highway vehicle recreation, wild horse and burro management, land use authorizations, and mineral development within the ACECs. Section 7 consultation would continue to be conducted with the USFWS on any federal action that might affect listed species.

Alternatives

Alternative A (Habitat Management Alternative) contains management goals and actions that are similar to the Proposed Action, with the exception of the management direction proposed for livestock grazing, minerals, and recreation. Under this alternative, three ACECs would be designated and managed. Livestock grazing within the ACECs would be managed according to forage production criteria developed by Tracy, (pg. 14, unpublished draft manuscript, 1995). Recreation management direction would be modified to reduce restrictions on recreation use. Section 7 consultation would continue to be conducted with the USFWS on any federal action that might affect listed species. Mineral activities would be allowed in all management areas with management direction to minimize conflict with recovery efforts.



Alternative B (Designated Wildlife Management Area (DWMA) Alternative) contains the management goals and prescriptions recommended in the Recovery Plan, with less emphasis on multiple use management of the public lands. Two special management areas (DWMAs), would protect 52 percent of the designated critical habitat within Lincoln County. The DWMAs would contain approximately 307,000 acres and would be managed primarily for the recovery of the desert tortoise. Management prescriptions would not authorize livestock grazing, wild horse and burro management, mineral development, many land use authorizations, and some types of recreational activities within the DWMAs. No special management attention, other than required Section 7 consultation on federal actions that might affect listed species, would be directed to the approximately 454,000 acres of desert tortoise habitat outside of the DWMAs.

Alternative C (No Action Alternative) would continue management under the approved Caliente MFP. Management recommendations from the Recovery Plan either would not be implemented or would not be systematically or comprehensively implemented. Section 7 consultation with the USFWS would continue to be conducted prior to the authorization of any federal action affecting listed species. Management direction would also be provided through the issuance of Biological Opinions by the USFWS through Section 7 consultation. Current management directions for livestock grazing and off-highway vehicle events were developed as a result of Biological Opinions issued to minimize effects on desert tortoise habitat. The No Action Alternative forms the baseline against which to assess the effects of the alternatives and is required for a comprehensive NEPA analysis.

Issues and Impact Conclusions

A number of important issues were raised for this environmental impact statement. These issues along with their impact conclusions are presented below. These measures are presented in detail in Chapter 4 of this environmental impact statement. A summary and comparison of the environmental impacts for the proposed action and all alternatives can be found at the end of Chapter 2. Detailed discussions of impacts can be found in Chapter 4 of this document.

TORTOISE HABITAT

Issue: Increase protection of desert tortoise populations and habitat to assist with recovery goals outlined in the Recovery Plan.

Conclusion: Proposed Action of the MFP Amendment directs development of three Areas of Critical Environmental Concern (ACECs) on which primary management emphasis will be for desert tortoise recovery. Land-use restrictions on ACECs benefitting the desert tortoise will generally allow other resource management to continue.

GRAZING

Issue: Loss of Animal Unit Months (AUMs) as a result of closing allotments to grazing.

Conclusion: Loss of AUMs has been partially mitigated by the Clark County Habitat Conservation Fund (HCF), through a willing seller buy-out for those allotments that are within ACECs.

LANDS

Issue: Land Tenure Adjustments and Land Use Authorizations.

Conclusion: The Proposed Action provides for retention of public lands within ACECs and designated critical habitat and also allows for disposal of public lands for community expansion in areas outside of the ACECs and designated critical habitat. The exception is that the federal owned legislatively leased properties controlled by

Harrich Investments, LLC, may be exchanged for the legislatively conveyed properties now owned by Harrich Investments, LLC. Both the legislatively leased and conveyed lands are considered critical habitat. The intent of any potential exchange would be to enhance ACEC reserve design and improve critical desert tortoise habitat.

Land Use Authorizations that envision surface disturbance will be denied or restricted within ACECs and designated critical habitat.

RECREATION

Issue: Provide corridors to allow organized OHV events to pass through desert tortoise habitat from population centers in Clark County into non-tortoise habitat to the north.

Conclusion: Most of the corridors suggested to allow events to pass through tortoise habitat have been included in the Proposed Action to allow access for non-speed portions of OHV events to points north.

MINERALS

Issue: Closure of lands to mineral entry and economic development.

Conclusion: With the establishment of the special management areas (ACECs), mineral activities would be restricted but not closed in the Beaver Dam Slope and Mormon Mesa ACECs. The Kane Springs ACEC would be closed to mineral entry to protect higher tortoise habitat values.

ECONOMIC AND SOCIAL CONDITIONS

Issue: Effects that the amendment would have on economics in Lincoln County and also additional restrictions on use of public lands.

Conclusion: No noticeable adverse economic effects are projected for the Lincoln County economy. Potentially, some additional costs may be borne by mineral operators, and some livestock operations would be reduced or curtailed. Several of the livestock operations have been inactive for a number of years; the active operations may be reimbursed by the Clark County Habitat Conservation Plan.

WILD HORSES

Issue: Use of public lands by wild horses and/or burros and the recovery of desert tortoise habitat.

Conclusion: Grazing by wild horses and burros would be excluded from special management areas in order to improve the habitat for desert tortoises. This would result in a reduction of twenty to seventy-five wild horses and the conversion of one to two herd management areas to herd areas.

Agency Preferred Alternative

In accordance with the National Environmental Policy Act, Federal agencies are required by the Council on Environmental Quality (40 Code of Federal Regulations 1502.14) to identify their preferred alternative for a project in the Final Environmental Impact Statement prepared for the project. The preferred alternative is not a final agency decision; it is rather an indication of the agency's preference. This alternative considered all the information that has been received, including comments on the Draft Environmental Impact Statement, relevant to the proposed project. The agency preferred alternative is the Proposed Action as described in the environmental impact statement.

Rationale

- * The Proposed Action would best meet the purpose and need of desert tortoise recovery within a multiple use management context.

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Special Management Areas</u>	Designate three areas of desert tortoise habitat as ACECs for a total of 212,500 acres or 83% of the designated critical habitat within Lincoln County.	Same as Proposed Action	Identify two areas of desert tortoise habitat as DWMA's for a total of 307,000 acres or 52% of the designated critical habitat within Lincoln County.	No Special Management Areas would be designated.
<u>Wildlife (desert tortoise and other special status species)</u>	Manage desert tortoise habitat to assist the recovery and delisting of desert tortoise in the Northeast Recovery Unit. Maintain or improve habitat condition for desert tortoise and other special species.	Same as Proposed Action	Authorize only those activities that would enhance the quality of desert tortoise habitat and other habitat. Establish barriers and underpasses for tortoise along heavily traveled roads and railroads.	Prepare HMP's for desert tortoise and Gila monster. Protect habitat of desert tortoise and other special species through mitigative stipulations developed through the environmental (NEPA) process for each individual action.
	Designate Experimental Management zones as needed.	Same as Proposed Action	Designate up to 10% as Experimental Management Zones.	
	Participate in USFWS approved interagency monitoring.	Same as Proposed Action	Participate in USFWS approved interagency monitoring.	
	Participate in USFWS-developed environmental education program	Same as Proposed Action	Same as Proposed Action	Program not developed.

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Forestry and Vegetative Products Mgmt.</u>	Within ACECs, authorize no commercial desert vegetation harvests (seed or plant) except for salvage and research on case by case basis. Allow commercial sales outside of ACECs.	Same as Proposed Action	Manage vegetative products in desert tortoise habitat for education, scientific purposes, sale and sustained yield.	Study, manage or allow sale of desert vegetation within planning area. Proceed issuance of authorization for surface disturbance with either free use or sale of vegetative products.
<u>Special Status Plant Species</u>	Manage special status plant species to assure protection, maintenance and enhancement of habitat.	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
<u>Livestock Grazing Management</u>	Allotments or portions of allotments within Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs would be closed to grazing.	Grazing (cattle) allotments within the ACECs would be authorized if the following forage requirement was met: 288 lbs/acre of available tortoise forage. Sheep grazing (Beacon Allotment) within the Beaver Dam Slope ACEC would be closed.	Allotments or portions of allotments within the Mormon Mesa and Coyote Springs DWMA would be closed to grazing. Allotments or portions of allotments outside of the DWMA would be open to grazing with no seasonal utilization levels	Conduct livestock grazing in accordance with the terms and conditions of the Biological Opinion for BLM's Interim Rangelwide Livestock Grazing Program in Mojave Desert Tortoise Critical Habitat. (USFWS 1994c).
	Allotments or portions of allotments outside of ACECs would be open to grazing with seasonal utilization limits.	Allotments or portions of allotments outside of ACECs would be open to grazing with seasonal utilization limits.		

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Wild Horse and Burro Management</u>	The Mormon Mountains HMA will no longer be managed for wild horses (0 AML), but will maintain its herd area status.	Same as Proposed Action	Same as Proposed Action except with the addition of Meadow Valley Mountains Herd Area.	Manage wild horse and burro populations in those areas where they existed at the passage of the WH&B Act of 1971 (PL-92-195)
	For HMAs within desert tortoise habitat but outside of ACECs wild horses would be managed with seasonal utilization limits.	Same as Proposed Action	Same as Proposed Action	

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Lands Management</u>	<p>Retain all public lands within ACECs, and critical desert tortoise habitat outside of ACECs, except in the case of Harrich Investments, LLC properties where federal legislatively leased lands may be exchanged for the legislatively conveyed properties now owned by Harrich Investments, LLC. Both the legislatively leased and conveyed lands are considered critical habitat. The intent of such an exchange would be to improve ACEC design.</p> <p>Allow disposal actions to occur within desert tortoise habitat outside of ACECs.</p> <p>Acquire private lands from willing sellers within ACECs and desert tortoise habitat.</p> <p>Allow land use authorizations outside of ACECs.</p>	Same as Proposed Action	<p>Retain all public lands and allow no disposal actions to occur within DWMA.s.</p> <p>Acquire private lands from willing sellers within DWMA.s.</p> <p>Allow no land use authorizations within DWMA.s that would cause any surface disturbance.</p> <p>Allow no new landfills within DWMA.s.</p>	<p>Provide public land for community expansion in the planning area as needed.</p> <p>Limit the transfer of public land for agriculture production to those areas that have been determined to have development potential.</p>

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Rights-of-Way Management</u>	Allow no new landfills within ACECs.			
	Retain the Nevada-Florida Land Exchange Harrich Investments, LLC (formerly Aerojet) legislatively designated corridor.	Same as Proposed Action	Do not authorize communication sites requiring new surface disturbance within DWMA's.	Locate and designate right-of-way corridors where major rights-of-way exist.
	Designate three utility/transportation corridors as described on Map 2-7.		Do not authorize any activities associated with the transfer of oil and gas that would cause surface disturbance within DWMA's.	Consolidate all future communication site rights-of-way, where feasible, on specific mountain peaks.
	Areas outside of corridors within ACECs would be considered rights-of-way avoidance areas.		Do not designate transmission and utility corridors within DWMA's.	
	Requests for new material site rights-of-way within ACECs, pursuant to the Federal Aid Highway Act, will be considered within a one-mile wide corridor along designated federal roads (Map 2-9).			
	Material site rights-of-way outside of ACECs would be considered on a case-by-case basis.			

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Recreation Management</u>	<p>OHV use in ACECs limited to designated roads & vehicle trails.</p> <p>ACECs closed to speed competitive OHV events. Non-speed competitive and non-competitive OHV events (or non-speed portions of speed events) may pass through ACECs on designated roads from October 16 - March 14 and June 16 - August 14.</p> <p>OHV casual use and events, limited to existing roads and vehicle trails in desert tortoise habitat outside of ACECs.</p>	<p>OHV use in ACECs limited to existing roads & vehicle trails.</p> <p>Speed competitive OHV events allowed to pass through ACECs on designated roads during tortoise inactive season (October 15 to March 15). Non-speed and non-competitive OHV events allowed to pass through without seasonal restriction.</p> <p>OHV designation outside of ACECs would remain open.</p>	<p>OHV use within DWMAs limited to designated roads and limited speed.</p> <p>DWMAs closed to all competitive or organized events.</p> <p>Parking and camping within DWMAs restricted to designated sites</p> <p>No restriction of recreational use in desert tortoise habitat outside of DWMAs. All types of organized OHV events could be conducted through tortoise habitat outside DWMAs, most likely through Toquop Wash. Halfway Wash would be open north of the Clark - Lincoln County line.</p>	<p>OHV designations are mostly "open" with variations of "limited" in select areas.</p> <p>OHV events conducted in accordance with Biological Opinion for Las Vegas District Off-Road Events.</p> <p>Kane Springs Valley closed to competitive OHV events.</p>

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Minerals Management</u>	<p>Kane Springs ACEC would be closed to fluid and non energy mineral leasables and operation under the General Mining Law, subject to valid existing rights.</p> <p>Closed to mineral materials disposal except one-mile wide corridors on designated federal and county roads.</p> <p>Mormon Mesa and Beaver Dam Slope ACECs will remain open to mineral entry with the following restrictions:</p> <p>1. Under the General Mining Law of 1872 will be subject to Plans of Operation.</p>	<p>ACECs remain open to the Mining Law of 1872 subject to Plans of Operations.</p> <p>Desert tortoise habitat outside of ACECs remains open to notices of operation for locatable minerals. Standard operating procedures and Endangered Species Act provisions would apply.</p> <p>No surface use allowed in the planning unit for fluid minerals from March 15 October 15.</p> <p>Access to leasehold by existing roads and trails, unless otherwise authorized.</p> <p>ACECs closed to mineral material disposal except in designated one-mile wide corridor on designated federal and county roads. Desert tortoise habitat outside ACECs remains open to mineral material disposal.</p> <p>Planning unit remains open to non-energy mineral leasing with the same lease stipulation as oil and gas.</p>	<p>DWMAs withdrawn from mineral entry, closed to fluid and non-energy mineral leasing, and operations of the General Mining Law, subject to valid existing rights. Closed to mineral material disposal.</p> <p>Desert tortoise habitat outside of DWMAs remains open to mineral entry, fluid and non-energy mineral leasing, and operations of the General Mining Law, and mineral material disposal.</p>	<p>All lands within the planning unit remain open to mineral entry, to fluid and non-energy mineral leasing (except Mormon Caves), to operations of the General Mining Law, and to mineral material disposal.</p>

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Minerals</u> <u>Management</u> <u>(continued)</u>	<p>2. Mineral Leasing</p> <p>Stipulations:</p> <p>a) No surface use allowed in the ACECs for fluid and non-energy leasible minerals from March 15 to October 15.</p> <p>b) Access to leasehold by existing roads and trails, unless otherwise authorized.</p> <p>3. Closed to mineral material disposal except in designated one-mile wide corridor on designated federal and county roads.</p>			

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Minerals</u> <u>Management</u> <u>(continued)</u>	<p>Outside ACECs</p> <p>1. Desert tortoise habitat outside of ACECs remains open to notices for locatable minerals. Standard Operating Procedures and Endangered Species Act provisions would apply.</p> <p>2. Mineral Leasing Stipulations:</p> <p>a) No surface use allowed in the ACECs for fluid and non-energy leasible minerals from March 15 October 15.</p> <p>b) Access to leasehold by existing roads and trails, unless otherwise authorized.</p> <p>3. Desert tortoise habitat outside ACECs remains open to mineral material disposal.</p>			

Table S-1 Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Fire Management</u>	Full suppression activities with minimum surface disturbance would be used throughout the planning unit. Some suppression restrictions apply.	Same as Proposed Action	Same as Proposed Action	Full suppression activities with minimum surface disturbance would be used throughout the planning unit.

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
DESERT TORTOISE				
Total Desert Tortoise Habitat Protected in Special Management Areas	212,500 acres (28% of desert tortoise habitat in the EIS planning area).	Same as Proposed Action	307,000 acres (41% of desert tortoise habitat in the EIS planning area).	0
Designated Critical Desert Tortoise Habitat Protected in Special Management Areas	203,700 acres (83% of the Designated Critical Desert Tortoise Habitat in the EIS planning area).	Same as Proposed Action	126,700 acres (52% of the Designated Critical Desert Tortoise Habitat in the EIS planning area).	0
Management Prescriptions for Tortoise Habitat Outside of Special Management Areas	542,100 acres subject to Section 7 consultation plus additional proposed management.	Same as Proposed Action	447,600 acres subject to Section 7 consultation with no additional proposed management.	754,600 acres subject to Section 7 consultation .
Tortoise Population Trends Within Special Management Areas	Encourage upward trend to attain long-term stability and viability goals, avoid long-term downward trends.	Maintain in the short term.	Encourage upward trend to attain long-term stability and viability goals, avoid long-term downward trends.	Currently stable trend at Coyote Springs and Sand Hollow study plots. Probable decline in trend in the future.
Ecological Status of Tortoise Habitat	Maintain or improve within ACECs. Maintain outside ACECs.	Maintain inside and outside ACECs.	Maintain or improve within DWMA's. Decrease outside of DWMA's.	Maintain
LIVESTOCK				
Number of AUMs reduced	2095 (Sheep) 3563 (Cattle)	2095 (Sheep) 0 (Cattle)	0 (Sheep) 3688 (Cattle)	0

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
Number of allotments closed	1 (Sheep) 2 (Cattle)	1 (Sheep) 0 (Cattle)	0 (Sheep) 2 (Cattle)	0
Number of allotments partially closed	0 (Sheep) 6 (Cattle)	0 (Sheep) 0 (Cattle)	0 (Sheep) 7 (Cattle)	0
Current livestock use acres closed to grazing	47,900	5,600	92,300	None
Current livestock non-use acres closed to grazing	164,600	0	214,700	None
WILD HORSES				
Appropriate Management Level (AML) for wild horses	0 for Mormon Mountains Herd Area; AML for Meadow Valley Mountains and Blue Nose Peak HMAs to be established through allotment evaluation process.	Same as Proposed Action	0 for Mormon Mountains and Meadow Valley Mountains Herd Areas; AML for Blue Nose Peak HMA to be established through allotment evaluation process.	AML for all three HMAs to be established through allotment evaluation process.
Number of Horses Removed	15 from Mormon Mountains Herd Area; 20 from outside of Mormon Mountains Herd Area.	Same as Proposed Action	15 from Mormon Mountains Herd Area; 40 from Meadow Valley Mountains Herd Area; 20 from outside of Herd Area boundaries.	20 from outside of HMA boundaries.

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
LANDS				
Desert Tortoise Habitat; Lands Retention within SMAs	Retain in public ownership all lands within ACECs (212,500 acres).	Same as Proposed Action	Retain in public ownership all lands within DWMA's (307,000 acres).	0
Designated Critical Desert Tortoise Habitat; Lands Retention outside of SMAs	Retain in public ownership 41,200 acres of designated critical desert tortoise habitat outside ACECs.	Same as Proposed Action	Potentially dispose of critical desert tortoise habitat subject to Section 7 consultation.	0
Desert Tortoise Habitat; Lands Disposal Outside of SMAs	15,000 acres identified for potential disposal; additional disposals to be considered on a case-by- case basis.	Same as Proposed Action	No acres specifically identified for disposal, however, disposals would be considered on a case-by-case basis for agricultural development and community expansion.	Disposals to be considered on a case-by-case basis for agricultural development and community expansion.
ROWs: Cost to Customer	Least expense; due to ROW located in designated corridors where previous inventories, clearances, and disturbances have occurred.	Same as Proposed Action	Most expense due to least amount of management flexibility.	Less expense than DWMA Alternative, more expense than Proposed Action.
Landfills	All unauthorized dumps will be closed and reclaimed.	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
RECREATION				
Recreation Access and OHV Use	212,500 acres within ACECs closed to all speed competitive OHV events, but open to non-speed competitive & non-competitive OHV events on designated roads from October 16 - March 14 and June 16 - August 14.	212,500 acres within ACECs limited to existing roads & vehicle trails.	307,000 acres within DWMAs limited to designated roads.	51,360 acres limited to existing roads and trails.
	542,100 acres outside ACECs limited to existing roads and vehicle trails.	542,100 acres outside ACECs open. Emergency designations would be done as needed in response to habitat damage.	447,600 acres outside DWMAs open; emergency designations would be done as needed in response to habitat damage.	703,240 acres within planning area open; emergency designations would be done as needed in response to habitat damage.
OHV Events	212,500 acres within ACECs closed to all speed competitive OHV events but, open to non-speed competitive & non- competitive OHV events on designated roads.	212,500 acres within ACECs open to speed competitive OHV events on designated roads during the tortoise inactive season. Non-speed competitive & non-competitive OHV events allowed on designated roads without seasonal restriction.	307,000 acres within DWMAs closed to all competitive and organized OHV events.	754,600 acres open to OHV events in accordance with the current Biological Opinion.
	542,100 acres open to speed competitive OHV events on existing roads.	542,100 acres open to speed competitive OHV events on existing roads.	447,600 acres open to competitive and organized events.	

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
MINERALS				
Minerals	Kane Springs ACEC, 65,900 acres, closed to the operation of the General Mining Law, subject to valid existing rights, mineral material disposal (except one-mile wide corridor on county and federal roads for maintenance under material rights-of-way and free use permits to local governments), and closed to fluid and non-energy mineral leasables.	0 acres withdrawn.	307,000 acres closed to the operation of the General Mining Law, subject to valid existing rights, mineral material disposal, and to fluid and non-energy mineral leasables.	754,600 acres open to mineral entry. 0 acres closed to withdrawals.
	Mormon Mesa and Beaver Dam Slope ACECs, 146,600 acres will be subject to a Plans of Operation requirement.	754,600 acres open to locatable minerals only with restriction on 212,500 acres, subject to plans of operation.	307,000 acres closed to the operation of the General Mining Law, subject to valid existing rights, mineral material disposal, and to fluid and non-energy mineral leasables.	754,600 acres open without restrictions.
	Outside ACECs, 542,100 acres, open to locatable mineral.	Same as Proposed Action	No special management outside ACECs.	754,600 acres open without restrictions.

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
Mineral Cont.	Within Mormon Mesa and Beaver Dam Slope ACECs. 212,500 acres closed to mineral materials except one-mile wide corridor of designated roads and trails.	212,500 acres closed to mineral materials except one-mile wide corridor on designated roads. 542,100 acres open to mineral material with minor restrictions.	No special management outside ACECs.	754,600 acres open without restrictions.
	Outside ACECs, 542,100 acres, open to mineral materials with Standard Operating Procedures.	Same as Proposed Action	No special management outside ACECs.	754,600 acres open without restrictions.
	688,700 acres open to non-energy and fluid leasable minerals with minor lease stipulations.	542,100 acres will be open to non-energy and fluid leasable minerals with minor lease stipulations.	Outside DWMA's, 447,600 acres, open to mineral entry with restrictions.	2,880 acres closed to fluid mineral leasing.
	Additional cost of operations and the loss of access to minerals.	Same cost of operation as the Proposed Action but no loss of access to mineral values would occur.	Loss of access to minerals and potential values of minerals to the public and industry	No additional cost of operations.

Table S-2: Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
FIRE MANAGEMENT				
Fire Management	Due to protection of habitat combined with minimizing surface disturbance, fire suppression and management will be more expensive due to the additional coordination and mitigation required.	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action

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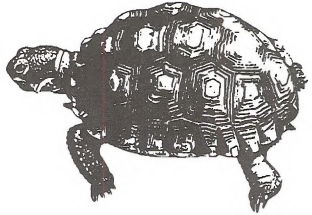
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CHAPTER 1

INTRODUCTION

PURPOSE OF AND NEED FOR ACTION

The purpose of this plan amendment is to help recover and delist the desert tortoise within a multiple use management context. The goals and actions, recommended in the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994a) (hereinafter Recovery Plan) would assist the recovery and delisting of the desert tortoise (*Gopherus agassizii*) in the Northeastern Mojave Recovery Unit (Map 1-1). The amendment is required to comply with the Endangered Species Act (ESA) of 1973, as amended, which mandates that all federal agencies will conserve and recover listed species within their administrative units. Management direction for this plan amendment was developed within the context of BLM's mandate from the Federal Land Policy and Management Act (FLPMA) to manage public lands under multiple use and sustained yield.

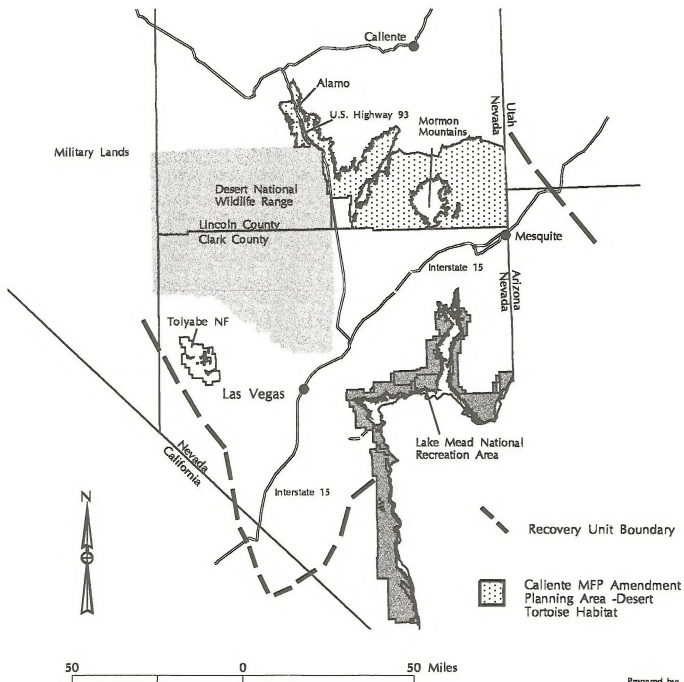


In 1990, the USFWS, under the authority of the ESA, listed the Mojave population of the desert tortoise as a threatened species. The ESA calls for the preparation and implementation of recovery plans for those listed species that are likely to benefit from the effort. The Secretary of the Interior is authorized to appoint recovery teams to prepare such plans. A recovery plan must establish recovery goals and objectives, describe site-specific management actions as may be necessary to achieve those goals, and estimate the time and cost required for recovery. A recovery plan is not self-implementing, but presents a set of recommendations, endorsed by an approving official representing the Department of the Interior (USFWS 1994a). "Recovery plans do not necessarily represent the views, official positions, or approval of any individuals or agencies involved in the plan formulation, other than the [U.S.] Fish and Wildlife Service" (USFWS, p. 1, 1994a). According to the USFWS, "Recovery plans delineate reasonable actions which are believed to be required to recover and/or protect listed species" (USFWS, 1994a).

The reader should be aware that BLM was represented on the recovery team, conducted an independent and extensive review of the Recovery Plan, and as a result, the Desert Tortoise Management Oversight Group (BLM State Directors of California, Nevada, Utah, and Arizona, and the four State Wildlife Management Agency heads) concurred with the Recovery Plan. To be in compliance with the National Environmental Policy Act, however, this environmental impact statement shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made (C.E.Q. 1502.2 (g)).

In 1994, BLM signed a national Memorandum of Understanding (MOU) with 13 other federal agencies to improve implementation of the ESA. Under the terms of this MOU, cooperating agencies have agreed to use their authorities to conserve federally listed species and to cooperate in the implementation of recovery plan actions, Conservation Agreements, and other affirmative conservation actions developed by regional interagency groups.

Northeastern Mojave Recovery Unit



Prepared by:
BLM, Ely, Nevada
Using ArcInfoGIS

The USFWS issued the Recovery Plan in 1994. This Recovery Plan identified specific recovery units, developed criteria for the recovery and delisting of the species, and recommended actions to be implemented on federal lands to achieve those goals. The Recovery Plan stated that the Mojave population of desert tortoise would be considered eligible for delisting on a recovery unit basis when the following conditions were met:

Criterion 1: As determined by a scientifically credible monitoring plan, the population within a recovery unit must exhibit a statistically significant upward trend or remain stationary for at least 25 years (one desert tortoise generation).

Criterion 2: Enough habitat must be protected within a recovery unit, or the habitat and desert tortoise population must be managed intensively enough to ensure long-term viability.

Criterion 3: Provisions must be made for population management within each recovery unit so that discrete population growth rates (lambdas) are maintained at or above 1.0 into the future.

Criterion 4: Regulatory mechanisms or land management commitments must be implemented that provide for long-term protection of desert tortoise and their habitat, such as those described in Sections II, D and E of the Recovery Plan. Delisting would be followed by a loss of protection under the ESA; therefore, adequate protection through alternative means is essential before delisting can occur.

Criterion 5: The population in the recovery unit is unlikely to need protection under the ESA in the foreseeable future (USFWS, p. 43-44, 1994a).

Additional Background Information:

The desert tortoise is found throughout the Mojave, Sonoran, and Colorado Deserts of California, Nevada, Utah, and Arizona. Two distinct desert tortoise populations are recognized: the Sonoran population, located east and south of the Colorado River, and the Mojave population, found west and north of the Colorado River. Only the Mojave population has been listed as threatened under the ESA. This plan amendment addresses the management of the public lands in Lincoln County, Nevada that provide habitat for Mojave desert tortoise populations.

In 1980, federal management actions for tortoise decline was formally effected for a portion of the Mojave population occurring along the Beaver Dam Slope of Utah. Action by the USFWS resulted in listing the Beaver Dam population as threatened and designation of 35 mi² as critical habitat.

By the late 1980's, federal land management agencies were developing enhanced management actions to benefit desert tortoise habitat and populations. In 1988, the **Desert Tortoise Habitat on Public Lands: A Rangewide Plan** was published (BLM 1988). The Rangewide Plan called for BLM managers to categorize all habitat using four criteria based on: relative importance of habitat to support viable tortoise populations; conflict resolution with other land uses; and, tortoise population density and trend. In keeping with the Rangewide Plan, a Management Oversight Group (MOG), consisting of multi-agency representation of primarily federal and state governments, was established in 1988 to oversee implementation of Rangewide Plan objectives inclusive of interagency coordination of activities. Facilitated by the BLM, the MOG was empowered to develop both management policies and research funding priorities benefitting the desert tortoise.

Current desert tortoise protection by Arizona, California, Nevada, and Utah state wildlife agencies varies and centers on laws, regulations, and policies regarding collection, possession, trade, and transportation of individuals. The exception is with California which also has habitat authority through its endangered species act. Protection

afforded by the states has changed over the decades. For example, collection or killing the desert tortoise was unlawful by the mid-1950's in Nevada. The Board of Wildlife Commissioners later acted on species classifications under authority of Nevada revised Statutes 501.110.1(d). Classifications were revised in 1978 and 1991 from Protected and Rare to Protected and Threatened, respectively (Nevada Administrative Codes 503.080). Similarly, the desert tortoise was elevated to a Threatened species by action of California's Fish and Game Commission on June 22, 1989. Both California and Nevada have adopted the desert tortoise as their State Reptile.

Using the 240-day emergency rule of the ESA, the USFWS listed the Mojave population of the desert tortoise as endangered on August 4, 1989. Except for animals in captivity prior to the listing date, all desert tortoises were afforded protection under the ESA. On April 2, 1990, the USFWS published its final ruling of the Mojave Population as Threatened based on several factors.

Desert tortoise numbers have been declining in some areas, particularly in the western Mojave Desert. The declines have been attributed to habitat loss or degradation, direct and indirect human-caused mortality, and more recently localized predation, and disease. An estimated 21 million acres of habitat are occupied by the Mojave population of desert tortoise; of that total, 14 million acres are public lands administered by BLM (unpublished report to the MOG, June 1995). Habitat loss has been a consequence of urbanization, agricultural development, livestock grazing, mining, and road development. Other human activities, including the removal of tortoises from the wild for pets, have been implicated in the declining numbers. Because of historic increase in raven populations, localized tortoise population have experienced heavier predation pressure, particularly on juvenile recruitment. The importance of predation by other species is not well understood. An upper respiratory tract disease has been implicated as a significant factor for some tortoise populations in the Mojave Desert. (USFWS 1994a). While populations in the Northeastern Mojave Recovery Unit, which includes the desert tortoise habitat in Lincoln County, do not seem to be undergoing major changes in numbers or densities, population levels are considered to be dangerously low (written communication, Brussard 1994).

The USFWS designated critical habitat for the Mojave population in 1994. Critical habitat designation includes "areas that contain the best remaining tortoise habitat" and "areas that contain essential habitat features (whether or not they are currently occupied by the listed species)" (Federal Register, p. 5828, Vol. 59, No. 26, Tues. Feb. 8, 1994). It also identifies those habitat areas that may require special management attention. The designation of critical habitat "does not prescribe specific management actions (inside or outside of critical habitat), nor does it have a direct effect on areas not designated as critical habitat" (Federal Register, p. 5821, Vol. 59, No. 26, Tues. Feb. 8, 1994). The USFWS conducts consultations under Section 7 of the ESA for actions that may affect listed species and their habitat. Section 7 consultation for critical habitat focuses on the effects of actions, whether or not that habitat is currently occupied by the listed species. Any action that may adversely modify critical habitat will trigger Section 7 consultation. "The requirement to consider adverse modification of critical habitat is an incremental Section 7 consideration above and beyond Section 7 review necessary to evaluate jeopardy and incidental take" (Federal Register, pg. 5834, Vol. 59, No. 26, Tues. Feb. 8, 1994).

In 1990, the Secretary of the Interior appointed a Desert Tortoise Recovery Team, consisting of eight members, generally academic scientists with expertise in desert tortoise biology, conservation biology, epidemiology, population dynamics, and desert plant communities. The team met 17 times between October 1990 and April 1994 in order to develop recommendations for recovery strategies. During development of the Recovery Plan, the team solicited input from the MOG. In June of 1994, the Desert Tortoise Recovery Team, with the concurrence of the MOG, issued the Recovery Plan.

The Recovery Plan describes a strategy for the recovery and delisting of the Mojave population that includes: 1) identification of six recovery units within the Mojave Desert region; 2) establishment of a system of special

management areas (SMAs), identified as Desert Wildlife Management Areas (DWMAs) within the recovery units; and 3) development and implementation of specific recovery actions within the DWMAs. The proposed DWMAs would include a portion of the designated critical habitat, as well as other desert tortoise habitat not designated as critical (Federal Register, p. 5746-5768, Vol. 59, No. 26, Tues. Feb. 8, 1994). The final boundaries of the proposed DWMAs were to be determined by land management agencies, in consultation with the USFWS, "through a planning process that is coordinated with local government and interested members of the public" (Federal Register, p. 5833, Vol. 59, No. 26, Tues. Feb. 8, 1994). In developing the proposed DWMAs, land management agencies would have the opportunity "to consider local custom and culture in their decision process" (Federal Register, p. 5839, Vol. 59, No. 26, Tues. Feb. 8, 1994).

The Planning Area (Map 1-1) for this amendment is managed under the Caliente Management Framework Plan (MFP), approved in February, 1982. Since many of the goals and objectives proposed to assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit would not be in conformance with direction contained in the approved MFP, an amendment to the MFP is needed.

LOCATION AND LAND STATUS

The Caliente Field Station, an administrative unit within the BLM's Ely Field Office, is located in Caliente, Nevada and administers public land in Lincoln County (Map 1-2). Approximately 3.4 million acres of public lands are contained within the Field Station Area; desert tortoise habitat comprises approximately 754,600 acres of that total. The planning area for this amendment is defined as BLM-administered desert tortoise habitat in Lincoln County; this habitat occurs at elevations below 4,000 feet (Map 1-3). No private lands would be directly affected by management direction described under the Proposed Action or alternatives.

CONFORMANCE WITH LAND USE PLANS

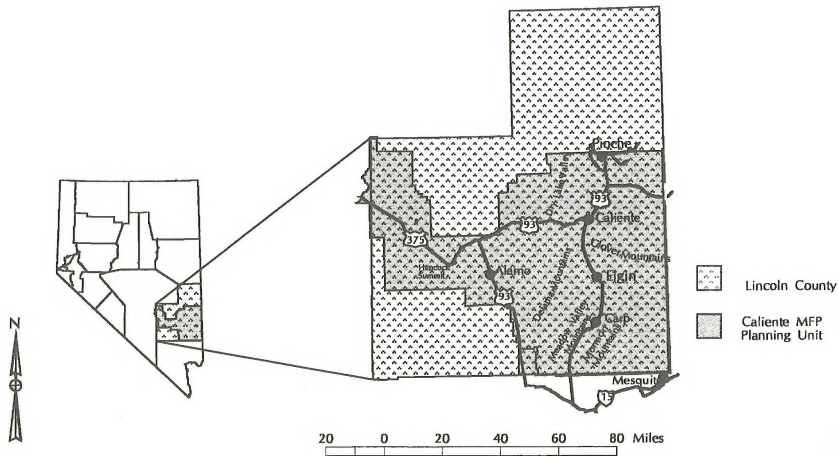
The Proposed Action or alternatives would amend the approved Caliente MFP for the planning area; no alternatives address the management of areas outside of the planning area. The Proposed Action or alternatives would be in conformance with the remainder of the decisions contained within the approved MFP. Neither the Proposed Action nor any alternatives proposed in this plan amendment contain direction that is inconsistent with approved activity plans for the planning unit. The Proposed Action or alternatives also conform to the Standards and Guidelines for Rangeland Health recommended by the Mojave-Southern Great Basin Resource Advisory Council to the BLM Nevada State Director in 1996 and approved by the Secretary of the Interior on February 12, 1997. (Appendix A)

CONSISTENCY WITH OTHER PLANS

Management of non-speed OHV events in the Proposed Action differs from adjacent BLM field office plans. The Las Vegas Field Office in Nevada proposes an array of restrictions including limiting numbers of events per year and per ACEC according to active or inactive season of the tortoise, requiring special recreation permits for small organized events, closing the ACECs for brief periods at the beginning and end of the tortoise active season, etc. The Arizona Strip Field Office in Arizona would close ACECs to non-speed events during the tortoise active season. The Dixie Field Office, Utah, and the Tonopah Field Station, Nevada, will limit non-speed OHV events to designated roads without seasonal or other restrictions. The Ely Field Office would close ACECs to all organized OHV activity during the tortoise's most active periods, similar to one of Las Vegas' restrictions, but would allow non-speed OHV events to pass through ACECs on designated corridors at all other times of the year, similar to Dixie and Tonopah (see responses to comments 5.9 and 19.12). The Recovery Plan identifies "all vehicle activity off of designated roads [and] all competitive and organized Map

Caliente MFP Amendment for Management of Desert Tortoise Habitat - General Location of the Caliente MFP Planning Unit

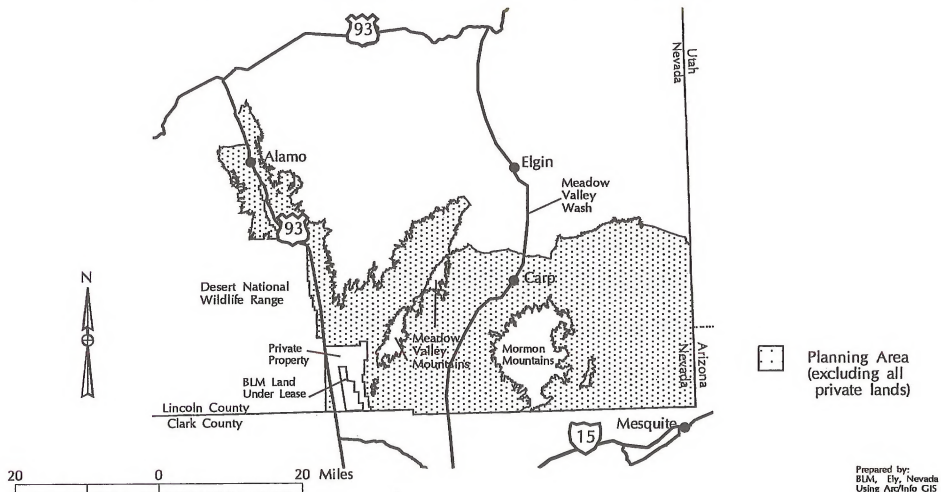
Map 1-2



Prepared by:
BLM, Elko, Nevada
Using Arc/INFO GIS

Caliente MFP Amendment for Management of Desert Tortoise Habitat - Planning Area

Map 1-3



Prepared by:
BLM, Ely, Nevada
Using ArcInfo GIS

events on designated roads" as "generally incompatible with desert tortoise recovery and other purposes of DWMAs." The OHV management strategy proposed in this plan amendment would be consistent with the Recovery Plan in restricting vehicular access to designated routes, but would be inconsistent in permitting organized OHV events to pass through the ACECs.

The Proposed Action or alternatives are consistent with the approved resource-related policies and programs of other federal agencies, Indian tribes, and the State of Nevada. Approved land use plans for adjacent federal administrative units include the Clark County MFP, the Esmeralda-Nye Resource Management Plan (RMP), Arizona Strip Field Office RMP, the Virgin River MFP, the Nellis Air Force Range Resource Plan, and the Desert Wildlife Range Management Plan. Plans approved by adjacent counties include the Clark County Desert Conservation Plan (Nevada) and the Washington County (Utah) Habitat Conservation Plan (HCP).

The Proposed Action and alternatives are also consistent with the Lincoln County Policy Plan for the Management of Public Lands, which recommends that federal land managing agencies "[i]dentify, protect, and preserve wildlife species and habitats on public lands" (Lincoln County Policy Plan, p. L1-10, 1984). The Policy Plan also recommends that "[t]he Federal Government should continue to make public rangelands economically and realistically available for livestock grazing, where compatible with other multiple use objectives" (L1-7). Further, the Lincoln County Policy Plan endorses the management of off-highway vehicle use on public lands "to minimize negative environmental impacts" (L1-9).

Management actions identified in the Proposed Action or alternatives would not be consistent with a resolution passed by the Lincoln County Commissioners on June 20, 1994. This resolution states that the Lincoln County Commission is "adamantly opposed ... to land exchanges or transfers that take land either off of county tax rolls or place land into a tax exempt status" (Lincoln County Commission Resolution #1994-10). Throughout the narrative in Chapter 2, reference is made to acquisition of the lands through exchange, in these cases private lands could be taken off of the county tax roles and therefore be inconsistent with the County Resolution.

Several adjacent BLM administrative units are preparing land use plans or amendments in order to implement the recovery goals and objectives identified for the Mojave population of desert tortoise. The Las Vegas Field Office (Las Vegas, Nevada), Tonopah Field Station Area (Tonopah, Nevada), and the Dixie Field Office (Cedar City, Utah) are preparing to have prepared RMPs that address many of the issues analyzed in this plan amendment. The Arizona Strip Field Office (Arizona) has also amended the Arizona Strip Field Office RMPs to accommodate management actions recommended by the Recovery Plan.

RELATIONSHIP TO STATUTES AND REGULATIONS

The Proposed Action or alternatives are in accordance with applicable federal statutes and regulations, including the Taylor Grazing Act, the FLPMA, the ESA, the Wild, Free-Roaming Horse and Burro Act, the National Historic Preservation Act, the Clean Water Act, the Clean Air Act, the Wilderness Act, Mining and Minerals Policy Act of 1970, National Materials and Minerals Policy, Research and Development Act of 1980, Congressional mandates, and Executive Orders.

PLAN AMENDMENT PROCESS OVERVIEW

The land use planning process, as mandated by FLPMA, requires BLM to solicit and incorporate public input in the management of public lands, while still complying with the laws and policies established by Congress and the Executive Branch of the Federal Government. Amendments to approved land use plans are developed using the planning process, following these basic steps.

Identification of Issues

Issues drive the plan amendment process and indicate concerns which the BLM and the public may have regarding the management of specific resources in a planning area. An issue is defined as an opportunity, conflict, or problem pertaining to the management of public lands and associated resources. Identification of issues orients the planning process so that interdisciplinary analysis and documentation are directed toward resolution of the issues.

The BLM is required to comply with the provisions of the ESA, as amended. This plan amendment constitutes a single issue planning document that will address the management of BLM-administered desert tortoise habitat in Lincoln County, Nevada. It responds to the following planning questions:

1. What management actions will be implemented to assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit?
2. Where will SMAs be designated within the desert tortoise habitat of the planning area?
3. What constraints, if any, will be placed on other resource uses?

Development of Planning Criteria

Planning criteria are formulated to guide the development of a land use plan amendment. The criteria are derived from laws; Executive Orders; regulations; planning principles; BLM guidance; consultation with interest groups and the general public; and available resource information for the area. The planning criteria for this amendment are as follows:

1. Comply with applicable laws, Executive Orders, and regulations.
2. Define the planning area as BLM-administered desert tortoise habitat within Lincoln County, Nevada.
3. Management direction within the existing Caliente MFP that pertain to lands outside desert tortoise habitat remain in effect and will be unchanged by this amendment.
4. Develop and implement management actions to accomplish the goals and objectives of the Recovery Plan in order to assist in the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit.
5. Use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and social aspects of public land management.
6. Weigh short and long-term benefits and detriments.
7. Coordinate BLM resource inventory, planning and management activities with the resource planning and management programs of other federal agencies, state and local governments, and Indian tribes, to the extent consistent with applicable laws.
8. Rely on available inventories and existing resource data in the planning area to reach sound management decisions.

9. Grazing permittees will receive compensation upon closure of the Sand Hollow and Beacon Allotments through this Land Use Plan Amendment.
10. Desert Tortoise inactive season in the planning area is October 15 to March 15.
11. The USFWS will revise critical habitat designations in the planning area to be consistent with the designated special management areas for tortoise.
12. The Harrich Investments, LLC, properties were legislatively leased and conveyed pursuant to P.L. 100-275. All of these properties are considered critical desert tortoise habitat. The 7,320 acres within the leased area is public land that is encumbered with a 99 year lease and is completely surrounded by the conveyed land. The BLM currently does not have full range management options or flexibility on these lands. To increase management flexibility and improve desert tortoise reserve design, we may exchange the leased lands for other private lands within the P.L. 100-275 area.
13. When public land acreage is no longer available for grazing, there is an implied reduction to livestock grazing. Actual reductions in livestock grazing may or may not occur, depending on whether or not current management practices can facilitate the change in public land that remains available for livestock grazing.
14. The USFWS will issue a biological opinion on the Proposed Caliente Plan Amendment that will address the management of land uses, including livestock grazing in desert tortoise habitat, and assess the adequacy of the management proposals to achieve recovery and delisting objectives.

Inventory and Data Evaluation

Using the planning criteria and focusing on the management of desert tortoise habitat in the Northeastern Mojave Recovery Unit, BLM specialists reviewed and evaluated available data. These data included field examinations, published and unpublished studies, and consultations with individuals and staff from other agencies and organizations.

Analysis of the Management Situation

The Analysis of the Management Situation was prepared to describe the condition and capabilities of resources within the planning area. The analysis provides the database for developing and evaluating alternatives and is generally incorporated into the draft Plan Amendment as the Affected Environment, and to some extent, the No Action Alternative.

Formulation of Alternatives

On the basis of the issues, planning criteria, and concerns raised during scoping, the Proposed Action and three comprehensive alternatives were developed for consideration. The No Action Alternative (Alternative C) is required by law and represents a continuation of present activities. Each alternative must meet the purpose and need for action and address the issues, while emphasizing different management. Several alternatives were considered but were eliminated from detailed analyses; these are described in Chapter 2, with a discussion of why they were not further considered.

Estimation of the Effects of Alternatives

In accordance with the National Environmental Policy Act (NEPA) of 1969, the physical, biological, social, and economic effects of implementing each alternative are estimated, to allow for a comparative evaluation of impacts (Chapter 4). Site-specific environmental documents will be prepared for projects and proposals that implement the management guidance contained in the approved Plan Amendment.

Selection of the Preferred Alternative

The Ely Field Manager recommended a Preferred Alternative to the Nevada State Director, based on the issues and information identified through the planning process; coordination and consultation with other entities; and the impact analyses of the alternatives. The Draft Plan Amendment/ Environmental Impact Statement (EIS) is then distributed to the public, including other government agencies and interest groups, for a 90-day review and comment period.

Selection of the Proposed Plan Amendment

Following the public review and comment period, the Ely Field Manager recommends a Proposed Plan Amendment to the Nevada State Director. Based on an evaluation of the public comments, the BLM may retain the Preferred Alternative or select a different alternative from the range of alternatives identified in the Draft Plan Amendment. The Proposed Plan Amendment/Final EIS will be filed with the Environmental Protection Agency (EPA) and distributed to the public for review.

Monitoring and Evaluation

Monitoring and evaluation are conducted annually and at 5 year intervals for the plan amendment. These will be used to determine the effectiveness of the plan amendment in achieving the desired results; to ensure that mitigation measures are satisfactory; and to ascertain whether there have been changes in related plans of other Federal, State or local governments. Any information gained will be incorporated into future planning, including other amendments or revisions to the Caliente MFP.

CHAPTER 2

ALTERNATIVES

INTRODUCTION

This chapter describes the Proposed Action and three alternatives which are analyzed in detail, and five alternatives considered but not analyzed in detail. The focus of the Proposed Action and alternatives is to assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit within a multiple-use management context. Each alternative contains objectives and directions or actions for the management of desert tortoise habitat; some management actions are the same for more than one alternative. The Proposed Action and alternatives represent a range of reasonable future management options. In making the final decision, the BLM may choose to combine portions of the alternatives.

Special Management Areas (SMAs) for desert tortoise are proposed as ACECs in the Proposed Action and Alternative A and as DWMA's in Alternative B (DWMA Alternative). Both types of SMAs would protect tortoise habitat but would be subject to different management prescriptions and constraints.

ALTERNATIVES CONSIDERED IN THE PLAN AMENDMENT

Proposed Action

The Proposed Action focuses on desert tortoise recovery and delisting within a multiple-use management context, while minimizing effects on human activities that occur in desert tortoise habitat. It is based on recommendations derived from the Recovery Plan, as well as management actions designed to be consistent with those proposed by adjacent BLM field offices. The Proposed Action includes management objectives and goals intended to benefit desert tortoise habitat both within and outside of the proposed ACECs. Nominations for the ACECs were provided by interested groups or members of the public. The locations and boundary configurations for these areas were based on input received during public scoping for this plan amendment and field trips with the USFWS, adjoining BLM offices, and State Wildlife Agencies. Section 7 consultation on any federal action that may affect listed species would continue to be completed prior to the issuance of authorizations. The actions and prescriptions in this alternative are consistent with balanced multiple use and ecosystem management.

Alternative A (Habitat Management Alternative)

Alternative A (Habitat Management Alternative) contains management goals, objectives, and prescriptions that are similar to those described in the Proposed Action, with the exception of Livestock Grazing, Recreation Management, and Minerals Management. Under this alternative, multiple use would be modified by prescriptions for livestock grazing, minerals, and recreational uses within the three proposed ACECs. Section 7 consultation for any federal action that may affect listed species would continue to be completed prior to the issuance of authorizations.

Alternative B (DWMA Alternative)

Alternative B (DWMA Alternative) contains management goals, objectives, and prescriptions recommended by the Recovery Plan, with less emphasis on multiple use management. Boundary configurations for the proposed DWMA's were developed from maps and data contained in the Recovery Plan. Management prescriptions would be applied only within the proposed DWMA's, since the Recovery Plan states that "no active management is recommended" for desert tortoise populations outside of DWMA's, unless those populations are in jeopardy

(USFWS, pg. 45, 1994a). The exception to this would be that should the lands legislatively leased or conveyed through P.L. 100-275 become available, the BLM would attempt to acquire them and include them in the Mormon Mesa DWMA. Section 7 consultation on any federal action that may affect listed species would continue to be completed prior to the issuance of surface-disturbing land use authorizations.

Alternative C (No Action Alternative)

Alternative C (No Action Alternative) would continue management under the approved MFP and activity plan decisions. No management recommendations from the Recovery Plan would be implemented. Although the Caliente MFP was approved prior to the development of the BLM **Rangewide Plan for Desert Tortoise** (BLM 1988), the decisions contained in the MFP are consistent with that plan. The approved MFP decisions are also consistent with the designation of critical habitat, since that designation "does not offer specific direction for managing desert tortoise habitat" (**Federal Register**, pg. 5833, Vol. 59, No. 26, Tues. Feb. 8, 1994). Section 7 consultations with the USFWS, required by the ESA, would continue to be completed for any federal actions that could affect a listed species or its habitat; prescriptions resulting from those consultations would provide BLM management direction for desert tortoise habitat.

One important change since the approval of the Caliente MFP in 1982 has been the issuance of decisions that restrict livestock grazing within allotments in desert tortoise habitat during tortoise spring activity periods (March-June). A biological evaluation of livestock grazing in desert tortoise habitat was submitted to the USFWS in 1991. The Section 7 consultation resulted in a Biological Opinion that contained a non-discretionary condition precluding livestock grazing from March 1 through June 14 of each year (USFWS, 1994c). The seasonal prescription on livestock grazing in desert tortoise habitat is now part of the No Action Alternative. The BLM issued "full force and effect" decisions to the grazing permittees, based on that Biological Opinion. The decisions were appealed by the livestock operators. In November 1995, an Administrative Law Judge (ALJ) for the Interior Board of Land Appeals (IBLA) upheld the BLM decisions. Subsequent to that ruling, the Desert Livestock Producers filed suit in Federal District Court seeking a permanent injunction against BLM to stay the Livestock Grazing decision that implemented the Biological Decisions. This case is currently pending.

Following the USFWS designation of critical habitat in 1994, BLM reinitiated Section 7 consultation on livestock grazing in desert tortoise habitat. Full force and effect decisions were issued to grazing permittees, based on the resulting Biological Opinion issued by the USFWS. These decisions were also appealed. The livestock grazing portion of Alternative C (No Action Alternative) in the Draft Plan Amendment is based on the 1991 and 1994 evaluations and the resultant Biological Opinions.

Another change in management direction since the approval of the Caliente MFP concerns Special Recreation Permits in the planning area. As a result of Section 7 consultation in 1995, the USFWS issued a programmatic Biological Opinion for speed-based off-highway vehicle (OHV) events in tortoise habitat, outside of designated critical habitat (USFWS, 1995c). The Biological Opinion limits the number of speed events that can be held in tortoise habitat on an annual basis and requires the routing of the events on previously used courses. The management direction for speed-based competitive events under Alternative C (No Action Alternative) is based on the 1995 Biological Opinion.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Alternative One

This alternative was a recommendation by the Lincoln County Public Lands Commission that BLM not implement any management actions to recover and delist the threatened desert tortoise in Lincoln County. As a

federal agency, BLM is required to follow the mandates of all applicable public land laws, including the ESA. This act requires that federal land managing agencies take actions to recover and delist threatened or endangered species within their administrative jurisdictions. An alternative that would not meet the purpose and need to aid in the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit would place the agency in violation of the law. This alternative was, thus, eliminated from detailed analysis.

Alternative Two

This alternative was proposed by a member of the public during scoping that would have modified uses on public lands to eliminate all domestic livestock grazing, vegetation harvest, biological specimen collection, and many other human activities from desert tortoise habitat. Under this proposal, wild horses and burros would continue to be managed in herd management areas (HMAs) in desert tortoise habitat. Such an alternative would not meet BLM's mandate for multiple use management of the public lands. It would also not meet the purpose and need for action, because it would not provide an appropriate level of management for all grazing uses to assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit. For these reasons, the proposal was also eliminated from detailed analysis.

Alternative Three

A "maximum habitat protection" alternative was proposed by the EPA as a response to the DEIS. This was not analyzed in detail for the following reasons.

An important purpose of alternatives is to address unresolved conflicts. Field coordination meetings for the purpose of designating boundaries of potential special management areas were held between the BLM and the USFWS in order to resolve conflicts regarding boundary delineation and reasonable administration of the areas. A 100% designated critical habitat alternative was, therefore, not needed to address unresolved conflicts. Since these coordination meetings were held with the USFWS (who originally designated the critical habitat) the BLM decision not to evaluate a 100% Critical Habitat alternative was neither arbitrary nor capricious.

According to the CEQ 40 Questions (1b), "What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case." A "rule of reason" must be applied in evaluating whether the agency has adequately considered a range of alternatives. (NRDC v. Morton, 1972)

According to the CEQ 40 Questions (1a), all alternatives must be "reasonable". CEQ 40 Questions, (29b) clearly states that if the alternative proposed by a commentator is not reasonable that it need not be considered for analysis. The question of reasonableness of the proposed alternative is discussed below.

The Federal Register designating critical habitat states, "The Service may revise critical habitat if land management plans, recovery plans or other conservation strategies are developed and fully implemented, reducing the need for the additional protection provided by critical habitat designation."

At a coordination meeting with the USFWS in the spring of 1997 in Las Vegas, Nevada, the USFWS affirmed their intention to revise critical habitat boundaries to coincide with the designated special management areas. That being the case, it was made part of the Planning Criteria (page 1-9 of the FEIS) which states, "The USFWS will revise critical habitat designations in the planning area to be consistent with the designated special management areas for tortoise." It would, therefore be unreasonable to analyze in detail an alternative which is contrary to administrative boundaries which have been coordinated with the USFWS.

In all of our coordination meetings with the USFWS, and their formal reviews of internal working documents and the Preliminary Draft EIS and the Draft EIS, not once did they ever indicate any desire to have an alternative analyzed which included 100% of the designated critical habitat, because they knew that to do so would be unreasonable.

A further consideration is the timing of the designation of critical habitat within the process. The critical habitat was designated in February of 1994. The Recovery Plan for the desert tortoise is dated June 1994. It is relevant to note that the Recovery Plan for the desert tortoise proposed that only 52% of the designated critical habitat be included within Special Management Areas for tortoise. Since the desert tortoise recovery team meeting proposed that 52% of the designated critical habitat be included within a special management area, it would clearly be unreasonable to analyze an alternative which included 100% of the designated critical habitat.

The purpose and need was to assist in the recovery and delisting of the desert tortoise within a multiple use land management context. To analyze such a "maximum protection" alternative would be unreasonable since it would not meet the purpose and need of accommodating multiple use with emphasis on assisting in the recovery and delisting of the desert tortoise. By the same reasoning, we did not analyze in detail a proposed "full production" alternative.

Alternative Four

A full production/commodity oriented alternative was proposed by the Lincoln County Public Lands Commission as a response to the DEIS. While this alternative would be very favorable to multiple use management of the public lands it would not, according to our current scientific understanding, meet the other part of the purpose and need; to assist in the recovery and delisting of the desert tortoise within the Northeastern Mojave Recovery Unit. Since it would not meet the purpose and need it would not be a viable alternative and should not be analyzed in detail. According to the CEQ Regulations for implementation of NEPA, "The range of alternatives discussed in an environmental impact statement shall encompass those to be considered by the ultimate agency decisionmaker." We cannot consider for selection as an Agency decision an alternative that does not meet the purpose and need. By the same reasoning, we did not analyze in detail a proposed "maximum protection" alternative.

Alternative Five

A fifth alternative considered was to allow a reduced level of grazing on the Breedlove, Rox-Tule, and Grapevine Allotments. This alternative only considered these allotments because portions of the allotment had livestock use areas within an ACEC, were receiving AUM reductions, or were not receiving compensation for AUM reductions. Livestock use areas were based on use pattern mapping, slope, and distance from water. Areas outside of these use areas were not used in determining the potential carrying capacity. A estimated carrying capacities for a winter season-of-use was then determined for portions of the allotments based on available ESI transect information. Analysis of the ESI transect data indicated that a potential of 39 AUMs may be available for the Breedlove Allotment, 33 AUMs may be available for the Rox-Tule Allotment and 42 AUMs may be available for the south pasture of the Grapevine Allotment. These AUM calculations were used for analysis purpose only and were developed with the assumption that all available native forage would be allocated to livestock.

It was determined that this alternative would not meet the purpose and need because based on the existing ESI information, the present native herbaceous vegetation component was not at its greatest potential in relation to the potential native herbaceous vegetation. Focus was on the native herbaceous vegetation because of its nutritional importance to the desert tortoise as recent studies indicate (Ofstedal and Allen, 1996, Oldemeyer,

1994). The potential native herbaceous vegetation was determined using the Nevada Rangeland Site Descriptions (USDA, 1992). Analysis of the ESI information indicate that the present grass component of a range site varied from 2 to 66 percent of the sites potential on the Grapevine Allotment. On the Breedlove and Rox-Tule Allotments the grass component varied from 40 to 50 percent of the sites potential. On a majority of these range sites species diversity was limited. The sites that did contain a higher percentage of native grass were primarily of one species and only made up a small percentage of the allotments. The forb species component, including some exotic species (i.e. filaree) that have some nutritional value for tortoise, within the allotments varied from 20 to 100 percent of potential on the Grapevine Allotment and 60 to 100 percent of potential on the Breedlove and Rox-Tule Allotments. Native forb diversity was limited throughout the majority of the area. Sites with the higher forb component and species diversity, were only a small percentage of the allotments. By allowing grazing to occur on these areas the native herbaceous component would not be given the change to improve and thus the habitat condition for the tortoise would also not improve.

Recovery Plan Recommendations

The Recovery Plan recommends that wild horses and burros not be managed within any SMA established to assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit (USFWS, pg. we, 1994a). An analysis of the management situation indicated that the construction of fencing would be required, in order to restrict access by wild horse and burro herds into the proposed SMAs. The Wild Free-Roaming Horse and Burro Act (PL 92-195, as amended) mandates that "[all management activities shall be at the minimal feasible level..." (Sec.3 (a)). The Code of Federal Regulations at 43 CFR 4710.4 also states that "management shall be at the minimum level necessary to attain the objectives identified in the approved land use plans and herd management area plans". Based on this legislative and regulatory direction, BLM has discouraged the use of fencing or other man-made devices to control wild horse and burro movements. Therefore, those proposals requiring the use of fencing to control wild horses and burros were considered but eliminated from detailed analysis.

The development of new water sources to manage wild horse and burro distributions (within HMAs but outside of proposed SMAs) was also considered but eliminated from detailed analysis. It is unlikely that BLM could obtain new water rights for this purpose, since the Meadow Valley watershed, within which the planning area is located, is fully adjudicated. This Plan Amendment will not further consider the development of new water sources as a management tool for wild horses and burros.

During the planning process, BLM, in coordination with the USFWS, identified several management recommendations from the Recovery Plan that did not need to be included in the Proposed Action or alternatives. In some areas of desert tortoise habitat, uncontrolled dogs outside of vehicles and the unauthorized discharge of firearms on public lands can negatively impact desert tortoise populations located near large, urban areas (USFWS 1994a). Due to the rural, unpopulated character of the planning area, these activities have not been identified as threats within the SMAs proposed by this Draft Plan Amendment (USFWS, Appendix G, 1994a). For these reasons, the management recommendations from the Recovery Plan which addressed uncontrolled dogs and the discharge of firearms were considered but eliminated from detailed analysis.

MANAGEMENT GUIDANCE COMMON TO ALL ALTERNATIVES

This section describes resource management guidance that is applicable, and therefore, common to the Proposed Action and all of the alternatives. Continuing management guidance includes laws, Executive Orders, regulations, Memoranda of Understanding, Cooperative Agreements, Department of the Interior manuals, BLM Instruction Memoranda, and other management practices and prescriptions that will not change or be proposed for change within this plan amendment. The Standards and Guidelines for Rangeland Health, developed by the

Mojave-Southern Great Basin Resource Advisory Council and approved by the Secretary of the Interior in 1997, would also comprise management guidance common to the Proposed Action and alternatives (see Appendix A).

The following resources will continue to be managed under valid existing management decisions contained in the approved Caliente MFP. The environmental impacts of land use actions not specifically covered in this plan amendment will continue to be analyzed in site-specific documents, as required by NEPA. Such analyses will be completed on a case-by-case basis. Proposed actions that are not in conformance with land use decisions in the Caliente MFP may be modified, denied, or evaluated through the plan amendment process.

AIR RESOURCES

All BLM and BLM-authorized activities will be managed to prevent air quality deterioration beyond the thresholds established by the Nevada Ambient Air Quality Standards. Mitigation measures will be developed on a project-specific basis, through the NEPA and statutory or regulatory processes, to reduce impacts on air quality.

SOIL AND WATER RESOURCE MANAGEMENT

Soil and water resources will continue to be evaluated on a case-by-case basis, as part of project level planning. Such evaluation will consider the potential impacts of the project and the sensitivity of soil and water resources in the area. Stipulations will be attached, as appropriate, to ensure protection of these resources.

Soils

Soils will be managed to maintain or improve rangeland productivity and to minimize potential wind and water erosion. Soils data will be used in project planning, with mitigation measures developed through the NEPA process to prevent deterioration or degradation of the soils resource.

Water Resources

Water quality will be maintained or improved in accordance with applicable federal and State of Nevada standards. Consultations will be undertaken with state agencies for proposed projects that could significantly affect water quality.

VISUAL RESOURCE MANAGEMENT

If any areas are designated by Congress as Wilderness Areas, those areas will automatically be reclassified as Visual Resource Management Class I areas and will be managed accordingly.

SPECIAL STATUS SPECIES MANAGEMENT

The BLM will continue to manage lands to meet the goals and objectives of any Recovery Plans and approved Habitat Management Plans (HMPs). Section 7 consultations with the USFWS would continue to be conducted, as required by applicable law. Monitoring of desert tortoise populations will continue to be conducted, using the MOG approved monitoring program in cooperation with the USFWS and NDOW. Protection of sensitive species and their habitat will be considered in all BLM-authorized or initiated activities.

FISH AND WILDLIFE HABITAT MANAGEMENT

Predator control will be authorized, as required, through the District Animal Damage Control Plan, in coordination with the USFWS, NDOW, and the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture. Protocols were formalized in an Interagency Memorandum of Understanding between the Department of the Interior-BLM and the Department of Agriculture in 1995 (60 FR 26045-48, 5-16-95).

The BLM will rehabilitate previously disturbed areas, when and where possible.

LIVESTOCK GRAZING MANAGEMENT

Livestock grazing occurring within the planning area would be consistent with the standards and guidelines for rangeland health developed by the Mojave Southern Great Basin Resource Advisory Council. Compensation will be provided for structural improvements for water, should water rights be lost because there is no longer a beneficial use.

WILD HORSE AND BURRO MANAGEMENT

Wild horses and burros that establish home ranges beyond the boundaries of an HMA will continue to be removed. Wild horses and burros will continue to be removed from private lands, after a request from the private land owner is made and reasonable efforts to keep the animals off private lands have failed.

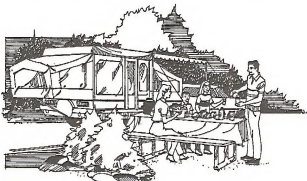
CULTURAL AND PALEONTOLOGICAL RESOURCES MANAGEMENT

Cultural resources will continue to be managed to evaluate, conserve, and interpret the full array of archeological, historical, and socio-cultural values in the planning area. Federal laws, such as the Antiquities Act of 1906, National Historic Preservation Act of 1966, the Archeological Resource Protection Act of 1979, as amended, and the American Indian Religious Freedom Act of 1978, as amended, provide for the protection and management of these resources. These laws are implemented through Federal regulations, Programmatic Agreements, and BLM Manual guidance.

Significant paleontological resources are protected under FLPMA. These values will continue to be managed through the issuance of permits.

RECREATION MANAGEMENT

A 14-day (consecutive) camping limit in any 28-day period will continue to be imposed at any one area on public lands. To protect resources, BLM may close any site to occupancy by posting notification. Emergency designations would be made, as needed, in response to potential resource damage.



WILDERNESS STUDY AREAS MANAGEMENT

All actions on lands under wilderness review will be processed in accordance with the BLM Manual H-8550-1, entitled *Interim Management Policy for Lands under Wilderness Review (IMP)*, until Congress either

designates those lands as Wilderness Areas or releases them for other uses. Should areas be released from wilderness consideration, management direction contained in this plan amendment would apply to these areas.

Portions of five Wilderness Study Areas (WSAs) (Meadow Valley Range; Mormon Mountains; Delamar Mountains; Fish and Wildlife #1; and Evergreen ABC) occur in desert tortoise habitat (see **Map 2-1**). As required by Section 603(c) of FLPMA, BLM must manage all WSAs so as not to impair their suitability for preservation as wilderness.

This management recognizes certain grandfathered activities and valid existing rights. Specific policy regarding the management of WSAs is found in the IMP. Any activities involving surface disturbance, placement of permanent structures or land disposal are generally precluded under IMP, as are activities incompatible with the preservation of natural conditions.

HAZARDOUS MATERIAL MANAGEMENT

Public lands will be kept free from unauthorized hazardous materials generation, storage, disposal, and transport. Cleanup actions, other than emergency removals, will be conducted consistent with the management objectives and actions in the approved Plan Amendment. All cleanups will be conducted in compliance with the requirements of the National Contingency Plan. The BLM will continue to clean up unauthorized dumps and sewage ponds as possible.

FIRE MANAGEMENT

Fire management activities will continue to conform to BLM directives in the application of appropriate levels of suppression to protect and enhance resource values.

LAW ENFORCEMENT

The BLM will continue to provide law enforcement to ensure compliance with regulations.

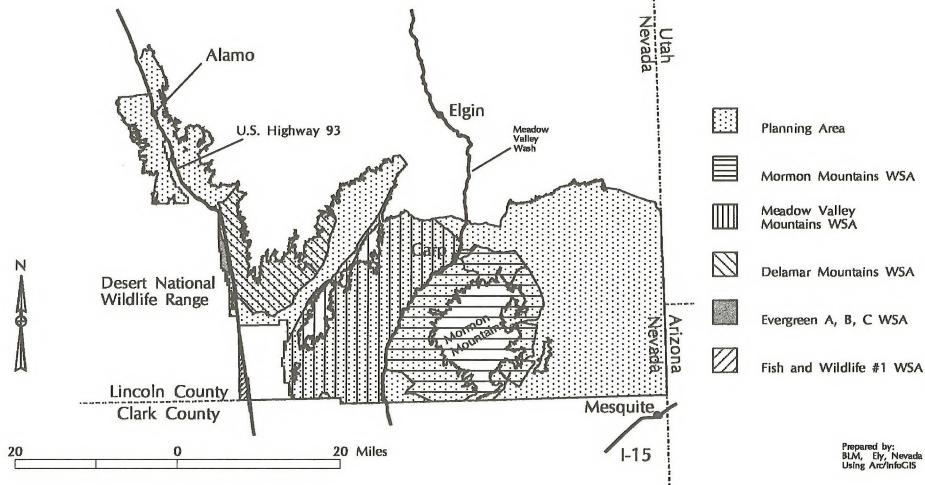
DESERT TORTOISE POPULATION MONITORING

Distance sampling is the methodology for the monitoring of desert tortoise populations range wide that has been selected by the Desert Tortoise Management Oversight Group. Distance sampling is the name given to a class of methods used to estimate the density of biological populations. This method provides a way to obtain reliable estimates of density (rather than just a crude index to density) of tortoises under fairly mild assumptions. It often provides a practical, cost effective class of methods for estimating density of sparse biological populations, such as the desert tortoise. For objects distributed sparsely across large geographic areas, there are often no competing methods. Implementation of this method over a long-term would make it possible to make inferences concerning: (a) possible short-term, drastic declines in population density, (b) long-term increases in population density due to management alternatives in the ACECs, and (c) trends across ACECs and adjacent lands.

Data for this sampling method is collected by using line transects. Lines are surveyed in the field and the observer records a distance to those animals that are detected. The sample data are the number of detected objects (tortoise) and the set distances to detected objects and any relevant data (such as tortoise size and gender); however, many objects may remain undetected during the course of the survey. To take this into account the probability of a tortoise being above ground during the survey period is added into the equation. This probability is determined by the use of radiotelemetry to estimate the proportion of tortoise above ground. To perform the calculation required to get a population estimate after the field data has been collected a computer program called Program Distance was developed.

Wilderness Study Areas Within the Planning Area

Map 2-1



PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

Objective

The objective is to amend the Caliente MFP to assist in the recovery and delisting of the Mojave population of desert tortoise in the Northeastern Mojave Recovery Unit within a multiple-use management context. This alternative contains four major components: 1) designation of three ACECs with associated management prescriptions; 2) management prescriptions for desert tortoise habitat inside and outside of ACECs; 3) participation in USFWS-developed and implemented environmental education program; and 4) implementation of the USFWS-approved interagency monitoring program.

Three ACECs would be designated and managed primarily for the recovery of the desert tortoise (Map 2-2). These ACECs would encompass 212,500 acres or approximately 83 percent of the critical habitat designated by the USFWS for desert tortoise in Lincoln County (Map 2-3). Management direction is also proposed for desert tortoise habitat outside of the ACECs, in order to improve that habitat and be consistent with recovery efforts by other agencies. The BLM would participate in a USFWS-developed environmental education program and implement an interagency desert tortoise monitoring program, approved by the USFWS.

The following description of the Proposed Action includes only those programs or resources for which new management objectives or direction are proposed; all other decisions from the approved Caliente MFP would remain valid.

SPECIAL MANAGEMENT AREAS

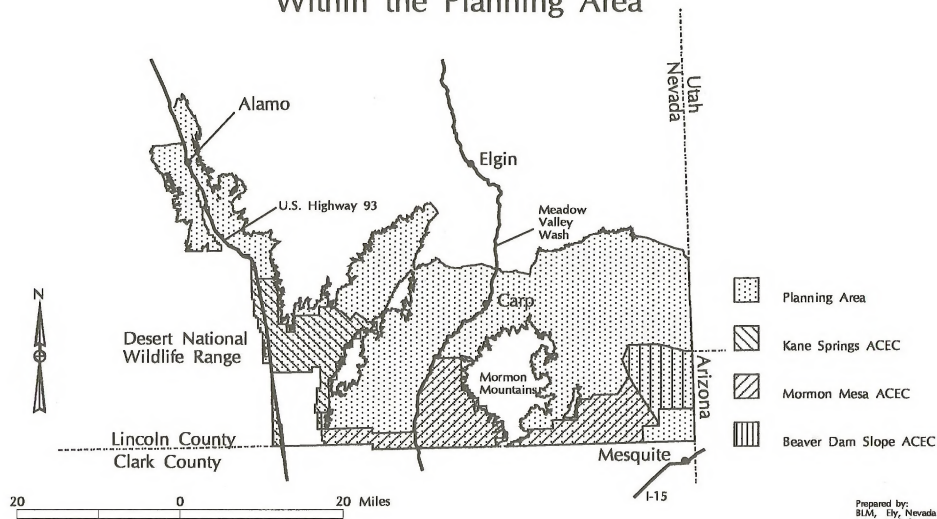
The Recovery Plan recommended general areas where SMAs should be established within recovery units. Whenever possible, SMA boundaries were drawn to include the best examples of desert tortoise habitat in specific vegetation regions. In addition heterogeneous terrain, soil types, and vegetation within SMAs will provide protection for the entire ecosystem upon which healthy desert tortoise populations depend. The array of recommended sizes and shapes for SMAs within the Northeastern Mojave Recovery Unit are addressed on page 35 of the Desert Tortoise (Mojave Population) Recovery Plan. The minimally acceptable arrangement within a Recovery Unit (where it is not possible for one or more round-shaped SMAs of 1,000 square miles each) is for a combination of smaller SMAs (connected by corridors of suitable habitat) totalling at least 1,000 square miles. Delisting criterion No. 2 (USFWS, p. ii, 1994a), however, specifies that more intensive management can be used to compensate for fewer acres of habitat protected in SMAs. The reader is reminded, however, that the planning area is just a small part of the Northeastern Mojave Recovery Unit and was never expected to meet the Recovery Unit objectives on its own. See the Cumulative Impacts section for an analysis of the impacts of the contribution of this planning effort in relationship to the other planning efforts for desert tortoise within the Northeastern Mojave Recovery Unit.

SMA selection and boundary delineation has been accomplished by land management agencies in coordination with the USFWS, and State wildlife agencies, after soliciting input from other interested parties. The design of the SMAs has met as many of the reserve design criteria as possible as outlined in the Recovery Plan (USFWS 1994a).

The Proposed Action would designate three ACECs, in Lincoln County, with a total acreage of approximately 212,500 acres. The proposed ACECs would be contiguous with other SMAs, either proposed or currently

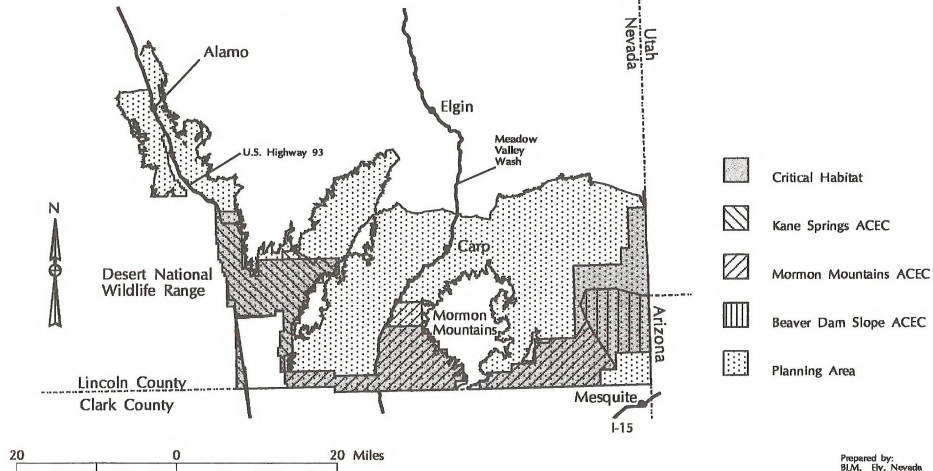
Proposed ACECs Within the Planning Area

Map 2-2



Proposed ACECs and Designated Critical Habitat Within the Planning Area

Map 2-3



Prepared by:
BLM, Elko, Nevada
Using Arc/InfoGIS

designated adjacent to the planning area. Appendix B describes the other resource values of these areas, as well as the relevance and importance criteria met by the proposed ACECs.

1. KANE SPRINGS ACEC

Values: Habitat for the federally-listed threatened desert tortoise and various sensitive species, including the banded gila monster (*Heloderma suspectum cinctum*), chuckwalla (*Sauromalus obesus*), and several species of bats and plants.

Acreage: 65,900 acres

2. MORMON MESA ACEC

Values: Habitat for the federally-listed threatened desert tortoise, endangered Southwestern willow flycatcher (*Empidonax traillii extimus*), and other sensitive species including the banded gila monster, chuckwalla, Meadow Valley Wash desert sucker (*Castostomus clarki ssp.*), Meadow Valley Wash speckled dace (*Rhinichthys osculu ssp.*), and the Arizona toad (*Bufo microscaphus microscaphus*).

Acreage: 109,700 acres

3. BEAVER DAM SLOPE (Nevada) ACECS

Values: Habitat for the federally-listed threatened desert tortoise, and various sensitive species, including the banded gila monster, chuckwalla, several bats, and plants.

Acreage: 36,900 acres

MANAGEMENT DIRECTION FOR THE ACECS

Develop Management Plans for each ACEC.

SPECIAL STATUS ANIMAL SPECIES/WILDLIFE HABITAT MANAGEMENT

Coordinate with the USFWS and NDOW to inventory desert tortoise habitat.

Initiate in coordination with the USFWS, NDOW, and the U.S. Department of Agriculture-Wildlife Services, a program to control desert tortoise predators.

Coordinate with the USFWS and NDOW, in order to designate Experimental Management Zones (EMZs), as identified in the Recovery Plan, and to issue permits for experimental research activities (including intrusive research on desert tortoise) within those zones during the recovery period as appropriate.

Coordinate with the USFWS and NDOW prior to the issuance of permits for research.

Coordinate with the USFWS and NDOW to develop approved translocation research projects, as necessary, for captive or displaced desert tortoises, as needed.

Implement a USFWS-approved interagency (NDOW, Nevada Natural Heritage Program, Biological Resource Division (BRD), and MOG) monitoring plan (Distance Sampling).

Participate in USFWS developed environmental education programs when appropriate.

Coordinate, whenever possible, with the Federal Highway Administration, the Nevada Department of Transportation (NDOT), and the Lincoln County Road Department to include a stipulation in the Highway Easement Deed that would encourage the installation of tortoise-proof fencing and crossing culverts along U.S. 93, and other roads as needed.

Coordinate with the USFWS and NDOW to monitor special status animal and other wildlife species.

Authorize population augmentation or enhancement activities for native wildlife species (e.g. desert bighorn, Gambel's quail), only if such actions would not create conflicts with habitat objectives for desert tortoise populations.

SPECIAL STATUS PLANT SPECIES MANAGEMENT

Cooperate with appropriate federal and state agencies to protect and manage special status plant species.

Maintain an inventory of special status plant species habitat within proposed ACECs.

FORESTRY AND VEGETATIVE PRODUCTS MANAGEMENT

Authorize no commercial desert vegetation harvests (seed and/or plants).

Authorize desert vegetation salvage based on NEPA analysis and Section 7 consultation.

Authorize desert vegetation harvest for educational/scientific research purposes through permits.

LIVESTOCK GRAZING MANAGEMENT

Management Areas (refer to Maps 2-4 and 2-5)

Table 2-1 displays information on those allotments or portions of allotments located within the proposed ACECs.

Management Direction

Close all allotments or portions of allotments within all of the ACECs to livestock grazing

Season of Use

No season of use would be authorized, as the following allotments would be closed to livestock grazing since they are located entirely within ACECs:

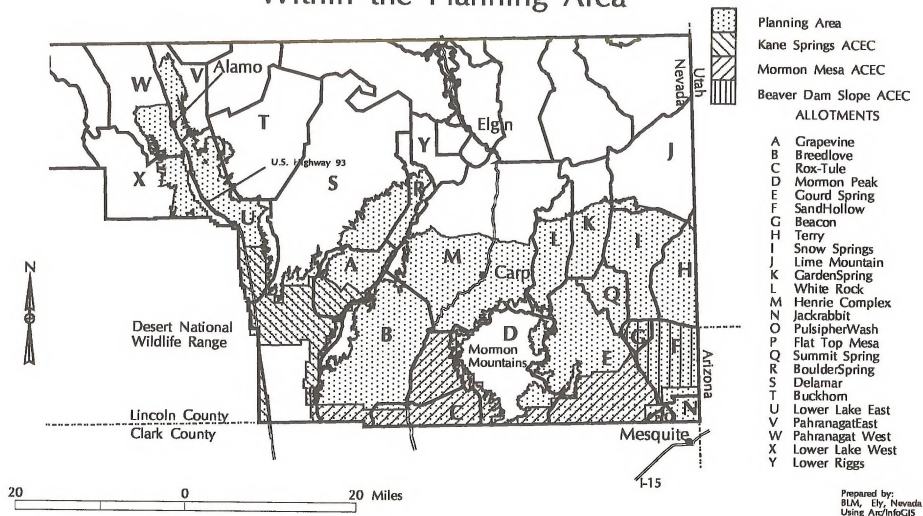
- Beacon Allotment
- Sand Hollow Allotment
- Rox-Tule Allotment

Table 2-1. Allotments partially or entirely located within proposed ACECs.

ALLOTMENT	TOTAL ACRES ALLOTMENT	TOTAL ACRES OF ALLOTMENT IN ACEC	PERCENTAGE OF ALLOTMENT IN PROPOSED ACEC
MORMON MESA ACEC			
Breedlove	121,500	31,600	26
Delamar	245,400	1,000	1
Gourd Springs	97,700	40,000	41
Mormon Peak	77,900	13,200	17
Rox-Tule	25,600	23,900	93
TOTALS	621,800	109,700	17
KANE SPRINGS ACEC			
Breedlove	121,500	400	3
Delamar	245,400	31,600	17
Grapevine	34,200	12,200	36
Lower Lake East	53,700	11,900	22
TOTALS	454,800	65,900	14
BEAVER DAM SLOPE ACEC			
Sand Hollow (Beacon)**	41,200	36,900	89 (100)
TOTALS **Beacon Allotment is located within the Sand Hollow allotment, a dual use area for cattle and sheep. (Source: BLM, Caliente Field Station, 1996)	41,200	36,900	95

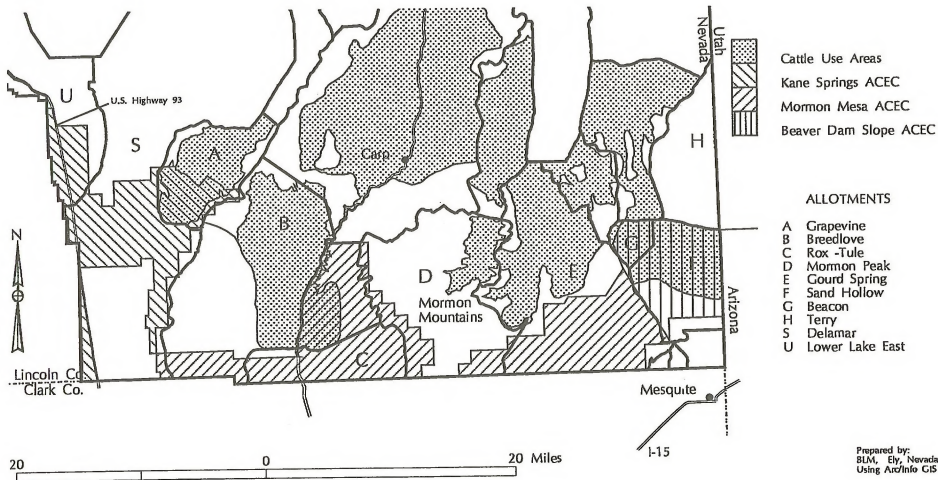
Grazing Allotments and Proposed ACECs Within the Planning Area

Map 2-4



Cattle Use Areas in Allotments Potentially Affected by ACEC Designations

Map 2-5



No season of use would be authorized in portions of the following allotments that occur within ACECs, as those portions of allotments would be closed to livestock grazing:

- Breedlove Allotment
- Delamar Allotment
- Gourd Spring Allotment
- Grapevine Allotment
- Lower Lake East Allotment
- Mormon Peak Allotment

Range Improvements

Construct improvements only as needed to facilitate multiple use and to exclude livestock from the proposed Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs.

Allotment Categorization

Allotment categories would be dropped for allotments or portions of allotments within proposed ACECs.

Initial Stocking Level

Current and proposed permitted use for allotments or portions of allotments within the proposed Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs would be as shown in Table 2-2. Make changes in permitted use on allotments, using the Allotment Evaluation and Multiple Use Decision processes and/or determination that livestock grazing is a factor in the non-attainment of rangeland health standards.

WILD HORSE AND BURRO MANAGEMENT

Management Direction

The Mormon Mountains HMA is the only HMA which overlaps an ACEC (Map 2-6). This HMA will no longer be managed for wild horses and burros. The entire area will lose its status as an HMA, but will maintain Herd Area (HA) status for future management consideration, should conditions change.

Remove any wild horses and burros that establish home ranges within an ACEC.

Remove all wild horses and burros from the Mormon Mountains HA and surrounding non-HMA areas. Should animals from adjacent HMAs reestablish within the HA and ACEC following removal efforts, additional removals would be conducted as needed to remove those animals.

LANDS MANAGEMENT

Disposal

Allow no disposal of public land through FLPMA sales, exchanges, Desert Land Entry, Indian Allotment, Recreation and Public Purpose, Carey, or Airport and Airway Improvement Acts.

Table 2-2. Current and proposed permitted use within proposed ACECs.

ALLOTMENT	CURRENT PERMITTED USE WITHIN ACECS	PROPOSED PERMITTED USE WITHIN ACECS
Lower Lake East	0	0
Delamar	0	0
Grapevine	211	0
Breedlove	166	0
Rox-Tule	756	0
Mormon Peak	0	0
Gourd Spring	0	0
Sand Hollow	2, 430	0
Beacon	2095	0
(Source: BLM, Caliente Field Station data, 1996)		

Land Use Authorizations

Allow only land use authorizations that do not require any surface disturbance.

Acquisitions

Encourage local governments and private individuals to purchase environmentally sensitive private lands within ACECs that could be exchanged for public lands outside of ACECs (see Appendix C).

Acquire lands legislatively transferred to Harrich Investments, LLC, (formerly Aerojet) by Public Law 100-275 through the appropriate authorities, should those lands become available. Include any lands acquired in the Kane Springs ACEC. This would also occur if termination or relinquishment of the lease were to take place.

Acquire private lands or rights to private lands within ACECs from willing sellers.

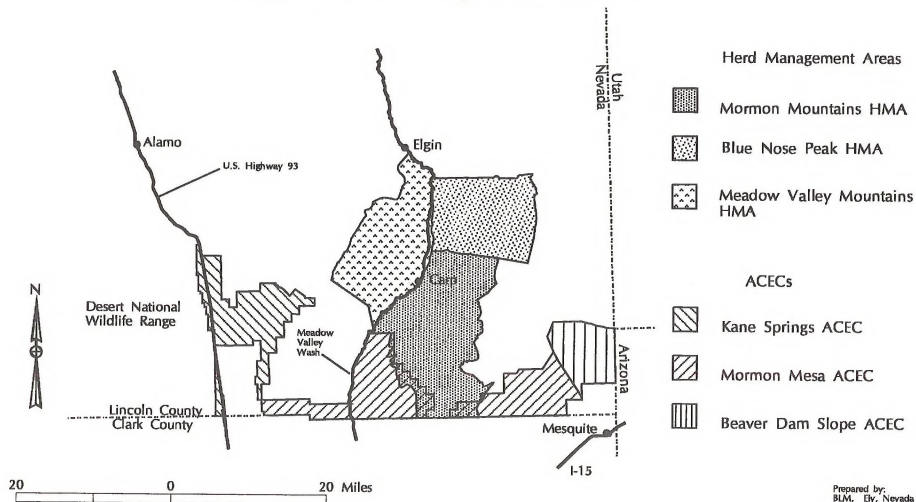
Un-authorized Use

Resolve unauthorized use so as to emphasize reclamation and title retention, rather than title transfer.

Reclaim surface disturbances from unauthorized uses to pre-disturbance conditions, if possible.

Wild Horse Herd Management Areas Within Proposed ACECs

Map 2-6



Withdrawals

Allow administrative withdrawals for the purposes of facilitating management and for construction of public information/environmental education facilities, on those lands within ACECs but outside of WSAs.

RIGHTS-OF-WAY MANAGEMENT

Utility/Transportation Corridors

Retain the legislatively-designated (Public Law 100-275) corridor running north and south on the east side of U.S. Highway 93, through the private holdings of Harrich Investments, LLC, (formerly Aerojet Corporation).

Designate the following corridors (see Map 2-7):

- 1) A corridor 2,640 feet wide connecting to the Moapa Reservation-designated corridor at Moapa, running northeast to the Nevada-Utah state line. The corridor would be one-quarter mile on either side of the IPP 500 kV line and includes portions of the Kern River pipeline. This corridor would cross portions of the proposed Mormon Mesa and Beaver Dam Slope ACECs and would link corridors proposed for designation in the Las Vegas District RMP and designated by the approved Dixie Field Office RMP.
- 2) A corridor 1,000 feet wide, 500 feet on centerline of the existing telephone fiberoptics lines, beginning within T. 11S, R. 71E, Section 30, running easterly to the Arizona state line. This corridor would cross portions of the proposed Beaver Dam Slope ACEC and would be consistent with the Arizona Strip Field Office.
- 3) A corridor 2,640 feet wide extending northerly from the north end of the Aerojet designated corridor, following the centerline of the approved Southwest Intertie Power Project (SWIP) right-of-way alignment. This corridor would cross portions of the proposed Kane Springs ACEC.

Corridor Terms and Conditions

Require power distribution lines of voltage higher than 69kV, major pipelines, and cross country communication lines to be located in a designated corridor.

Encourage stacking of utility uses.

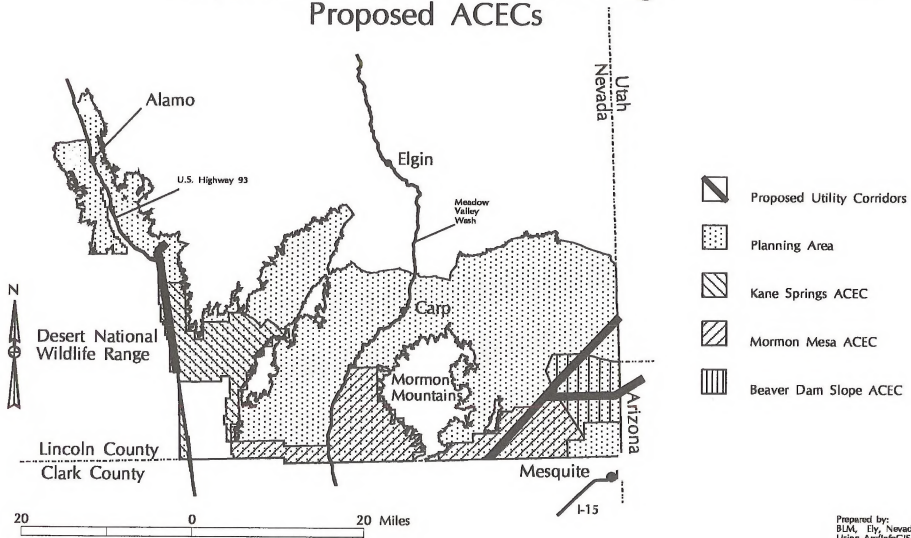
Grant power distribution lines 69kV or less, local telephone, and cable lines outside of designated corridors on a case-by-case basis. Evaluate right-of-way applications based on NEPA analysis and Section 7 consultation.

Grant access roads to private parcels, federal oil and gas leases, and mining claims based on NEPA analysis and Section 7 consultation.

Require Standard Operating Procedures, as needed to implement mitigation measures for rights-of-way activities (see Appendix E).

Proposed Utility Corridors Through Proposed ACECs

Map 2-7



Prepared by:
BLM, Elko, Nevada
Using Arc/InfoGIS

Right-of-Way Avoidance Areas

Consider the following as avoidance areas (refer to Map 2-1):

- Delamar Mountains WSA (NV-050-177)
- Meadow Valley Range WSA (NV-050-156)
- Mormon Mountains WSA (NV-050-161)
- Fish and Wildlife #1 WSA (NV-050-201)
- Evergreen ABC WSA (NV-050-1R-16)

Renew existing rights-of-way grants if they are still being used for their authorized purpose.

Evaluate applications based on NEPA analysis and Section 7 consultation for WSAs (or portions of WSAs) released by Congress for other uses.

Consider areas outside of proposed corridors within ACECs as rights-of-way avoidance areas; applications will be evaluated based on NEPA analysis and Section 7 consultation.

Require Standard Operating Procedures, as needed, to implement mitigation measures for rights-of-way activities (see Appendix E).

Right-of-Way Exclusion Areas

Consider all requests for new material site rights-of-way pursuant to the Federal Aid Highway Act within WSAs as inconsistent with this plan amendment.

Consider any designated Wilderness Areas as right-of-way exclusion areas, unless otherwise stated in the enabling legislation.

Areal Rights-of-Way

Limit authorization of future communication site rights-of-way to existing, established communication sites. Make exceptions if the use of an established site is not technically feasible.

Require Standard Operating Procedures, as needed to implement mitigation measures for rights-of-way activities (see Appendix E).

Material Site Rights-of-Way

Consider existing material site rights-of-way in ACECs (both developed and undeveloped) authorized under the provisions of the Federal Highway Aid Act as valid existing rights and consistent with the land use plan. Material sites will be authorized within the one mile wide corridor on state and county roads. These sites will be restricted to 10 mile separations.

Grant rights-of-way to allow transport of oil and gas from producing oil or gas fields that might be developed. These rights-of-way would follow the most feasible route to an established pipeline or road system for further distribution. Encourage corridors, where feasible.

Require Standard Operating Procedures, as needed to implement mitigation measures for rights-of-way activities (see **Appendix E**).

RECREATION MANAGEMENT

Casual Off-Highway Vehicle (OHV) Use

Limit casual OHV use in ACECs to roads and vehicle trails designated for OHV use. A route inventory would be conducted. The public participation process would identify routes for designation or closure. A **Federal Register** Notice would be published, and after an appropriate comment period, BLM would:

- Post entry portals or major intersections with signs that read *Vehicle Travel Limited to Designated Roads and Trails*
- Close and rehabilitate extraneous routes
- Sign all designated routes as *Open*
- Sign designated routes to prohibit off road driving
- Enforce the ban on off road driving

Designation of roads and trails would take place within two years of the issuance of a Record of Decision for this plan amendment. Any roads that might be created following the designation process would be physically closed and rehabilitated as part of ongoing monitoring and maintenance.

Organized OHV Use

Close ACECs to all speed competitive OHV use until additional information is available regarding the impacts of these types of activities on the desert tortoise and its habitat. Should monitoring in other areas indicate that properly managed speed competitive events cause little or no adverse impacts to the desert tortoise or its habitat, these types of events will be allowed to pass through ACECs from October 15 to March 15 along the following constructed, maintained roads; Kane Springs, Carp-Elgin, Halfway Wash, East Halfway Wash and Littlefield Roads (see **Map 2-8**). Of these roads, only the Kane Springs Road lies entirely within the planning unit. Therefore, use of any of the other four corridors would require the concurrence of one of the adjacent administrative units. If monitoring studies indicate that there are unacceptable adverse impacts to the tortoise or its habitat, ACECs will remain closed to speed competitive OHV events.

Close ACECs to all types of organized OHV events from March 15 to June 15, and August 31 to October 15. Outside of these times, permit a maximum of 15 non-speed competitive events, non-speed portions of speed events, and non-competitive OHV events to pass through ACECs on roads designated open to organized OHV use (see **Map 2-8**). No more than 10 such events will be allowed to pass through any one ACEC per year. Kane Springs Road would be limited to a maximum of 300 vehicles per event. The remaining corridors would be limited only by restrictions imposed by adjacent planning units (refer to **Table 2-3**).

Adjustments to the maximum number of events will be made based on the information made available through ongoing monitoring of these types of events. Vehicle off-loading areas, if authorized within tortoise habitat, would be limited to areas of existing disturbance, and of sufficient size to accommodate the number of vehicles involved without expanding the disturbed area. **Appendix D** describes stipulations that would be attached to all Special Recreation Permits for organized OHV events in desert tortoise habitat.

Proposed Designated Off-Highway Vehicle Routes through Proposed ACECs (for events only)

Map 2-8

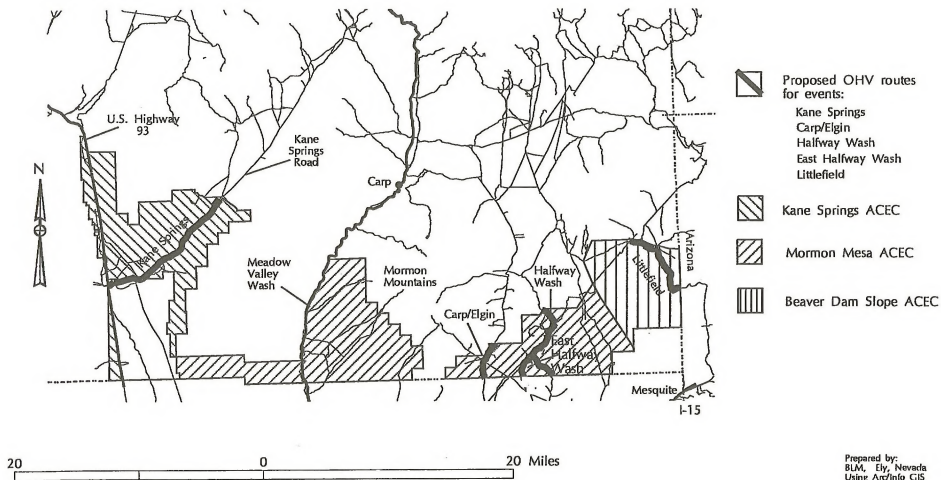


Table 2-3. Summary of limitations for non-speed OHV events and non-speed portions of speed events within ACECs.

Corridors	Carp/Elgin, Halfway Wash, and East Halfway Wash		
	Initial Level	RMP Level*	Clark County**
Maximum number of vehicles within active season (Mar 1-Oct 31):	75 with one event per ACEC with 76 to 150 vehicles and will count as two events	100	300 Events with more than 75 vehicles shall count as two events.
Dates events allowed between March 1 and Oct 31:	Mar 1-15; and Jun 15-Aug 14	Mar 1-31; June 1-Aug 14; and Oct 16-31	Mar 1-15; Jun 16-Aug 31; and Oct 16-31 The Sept. through Oct. dates may vary up to three days to allow a full weekend for an event.
Maximum number of vehicles during inactive season (Nov 1-Feb 28/29)	300	300	
Maximum number of vehicles from Oct 16-March 15			300
Minimum number of vehicles requiring permit	26	26	26
Maximum number of laps or passes	1	1	
Maximum number of events during active season w/limitations above and below	5 with no more than 3 events per ACEC; only 1 event per ACEC with 76-150 vehicles, which will count as two events.	10 with no more than 3 events per ACEC	5
Maximum number of events within inactive season (Nov 1-Feb 28/29)	12 with no more than 3 per ACEC	12 with no more than 4 events per ACEC	
Maximum number of events from Oct 16-March 15			60 with no more than one event per day.

*Limitations along these corridors are imposed under the Las Vegas RMP. The initial level of use will be imposed during the 3-year evaluation period identified in the Las Vegas RMP Biological Opinion term and condition 1.a. The maximum level is established in the Las Vegas RMP.

**This level of use is being proposed by a working group in Clark County. The RMP will be amended to accept these levels at which time they will replace the RMP Level. Until this is completed OHV use will be managed under the RMP Level.

Table 2-3. Summary of limitations for non-speed OHV events and non-speed portions of speed events within ACECs continued.

Corridor	Littlefield*
Dates events are allowed	October 16 - March 14
Maximum number of vehicles per event	400 motorcycles 300 four-wheeled vehicles
Minimum number of vehicles requiring permit	50
Maximum number of laps or passes per event	1

*Limitations along this corridor are imposed under the Arizona Strip RMP Plan Amendment.

Corridor	Kane Springs Road*
Maximum number of vehicles per event	300
Dates events are allowed	October 16 - March 14 and June 16 - August 31
Minimum number of vehicles requiring permit	50
Maximum number of laps or passes per event	1
Maximum number of events per year from October 16 - March 15	10

*Limitations along this corridor are imposed under the Caliente MFP Plan Amendment.

Participate with the Las Vegas Field Office in the development and implementation of an OHV monitoring plan to assess impacts to tortoise and its habitat within proposed ACECs, if present, that result from casual and organized OHV activities.

Non-OHV Organized Events

Allow non-OHV organized and commercial events on a case-by-case basis.

General Recreation

Accommodate non-consumptive recreation uses (e.g. hiking, birdwatching, photography, and casual horseback riding) that do not disturb desert tortoise habitat.

Establish sites for parking and camping, where appropriate and needed to recover and/or avoid resource degradation.

Improve opportunities for non-motorized recreation, including the development of interpretive sites, kiosks, and wildlife guzzlers, where appropriate and consistent with the recovery and delisting of the desert tortoise and BLM policy.

Monitor for impacts to desert tortoise habitat from recreational uses.

WILDERNESS MANAGEMENT

Continue to manage WSAs contained within ACECs according to the IMP. Should a conflict between the IMP and ACEC management prescriptions exist, manage according to the standard which provides greatest protection for the desert tortoise and its habitat.

Should Congress release WSAs within ACECs from further consideration as wilderness, manage those areas under the ACEC management prescriptions.

Limit vehicle travel within WSAs to those routes (ways) that are designated as "open." Some routes (ways) may be signed as "closed" to achieve goals and objectives for desert tortoise habitat management and/or the management of wilderness values.

MINERALS MANAGEMENT

Kane Springs ACEC would be withdrawn and/or closed from mineral entry under the following public laws:

1. General Mining Law of 1872, as amended.
2. Mineral Leasing Act of 1920, as amended and supplemented.
3. Mineral Leasing Act for Acquired Lands of 1947, as amended.
4. Geothermal Steam Act of 1970, as amended.
5. Mineral Material Act of July 31, 1947, as amended.
6. Surface Use and Occupancy Act of July 23, 1955.

Close the Kane Springs ACEC to mineral entry. Close the Kane Springs ACEC to fluid and non-energy mineral leasing, to the operations of the General Mining Law, subject to valid existing rights; and closed to

mineral material disposal, except a one-mile wide corridor on US 93, Carp-Elgin, and Kane Springs Road, for county and federal highways maintenance (see Map 2-9).

Existing mining claims would have valid existing rights and mining operations could occur in the ACEC. The withdrawal could take several years before it is designated closed and any mining claim within the withdrawal would have existing rights under the mining law. The BLM would be required to perform validity exams on the existing claims to determine if they are valid claims before any operation may proceed within the ACEC. The operation can proceed once the review of the plan of operation, NEPA review, and section 7 consultation has occurred.

Locatable Minerals

Mormon Mesa and Beaver Dam Slope ACECs would remain open to the operations of the General Mining Law of 1872, but would require a plan of operations, as outlined at 43 CFR 3809, for locatable mineral activities.

BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

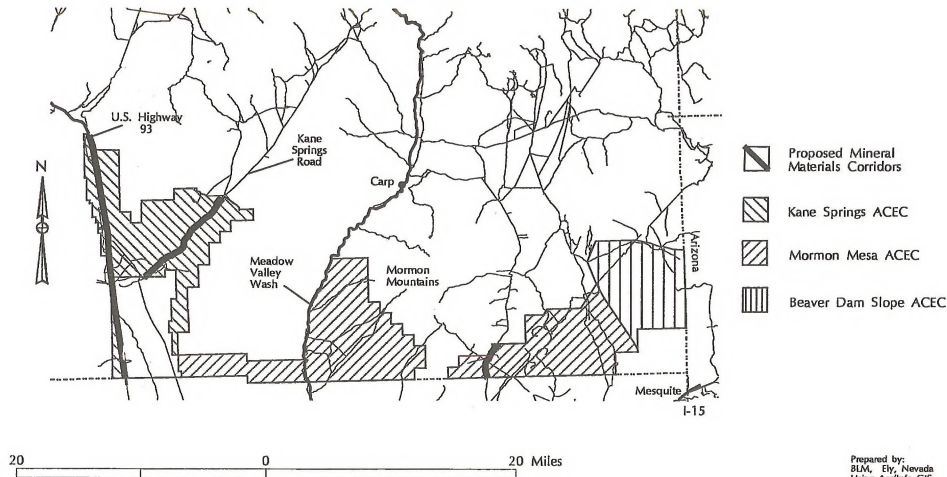
Require Standard Operating Procedures, as needed, to be implemented for locatable minerals activities (see Appendix E). These operating procedures include reclamation requirements which will outline the standards that must be met before the completed reclamation is approved and the accompanying bond released. These standards are subject to change based on the site specific conditions at the site and with consultation with the USFWS.

Fluid Minerals

The Mormon Mesa and Beaver Dam Slope ACECs will have lease operations conducted as described under the standard terms and conditions contained in the lease instrument. A stipulation to a lease is a provision that modifies standard lease rights and is attached to and made part of the lease. Resource values are also protected through restriction or conditions attached to field operations, such as applications to drill and sundry notices. These restrictions can be placed on operations on a site-specific basis to protect other resources. BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

Proposed Mineral Materials Corridors Within Proposed ACECs

Map 2-9



Standard practices and procedures for geophysical exploration and conditions of approval for application permits to drill under this alternative are described in **Appendix E**. These operating procedures include reclamation requirements which will outline the standards that must be met before the reclamation is released. These standards are subject to change based on the site specific conditions at the site and with consultation with the USFWS.

Under certain conditions, grant waivers, exceptions, and modification of lease stipulations. A waiver is a permanent exemption of lease stipulation. An exception is a one time exemption to a lease stipulation which is determined on a case-by-case basis. A modification is a change to the provision of a leased stipulation, either temporarily or for the term of the lease. Waivers, exceptions or modifications can only be approved by the Authorized Officer.

Stipulations could not be legally attached to existing leases, without the consent of the lessee. The existing stipulations attached to the lease are retained as long as the lease is valid. If the acreage involved in these expired leases is re-offered for leasing, the new stipulations developed under this alternative would be attached to the new lease.

Leasing stipulations are as follows:

1. Open to leasing with minor restrictions (timing limitations).

No surface use is allowed from March 15 to October 15. This stipulation does not apply to operation and maintenance of production facilities.

2. Open to leasing with minor restrictions (controlled surface use).

Unless otherwise authorized, access to this leasehold, and operations will be limited to the existing roads and trails.

A leasing notice providing guidance for plan development will be included on all leases. Section 7 consultation will be completed prior to any surface disturbance in desert tortoise habitat. BLM must ensure through the review of the application permit to drill and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

Mineral Materials

Close the proposed Kane Springs, Mormon Mesa and Beaver Dam Slope ACECs to mineral material disposal except a one mile wide corridor, one half mile each side of the road on designated roads, for the disposal of mineral material through free use permits and Federal Highway material site rights of ways (see Map 2-9). These authorizations are for local, county and state governments. Existing pits and designations identified as not needed to meet current and future demand will be closed and reclaimed. There will be a restriction of 10 miles between each mineral material site.

Any authorizations through free use permits or Federal Highway material site rights of ways will be subject to operating procedures described in **Appendix E**. BLM must ensure through the review of the plan of

operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward. These operating procedures include reclamation requirements which will outline the standards that must be met before the reclamation is released. These standards are subject to change based on the site specific conditions at the site and with consultation with the USFWS.

Non-Energy Leasable Minerals

The Mormon Mesa, and Beaver Dam Slope ACECs will remain open to non-energy mineral leasing.

Apply Standard Operating Procedures to prevent undue or unnecessary surface disturbance (see Appendix E). BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward. These operating procedures include reclamation requirements which will outline the standards that must be met before the reclamation is released. These standards are subject to change based on the site specific conditions at the site and with consultation with the USFWS.

Leasing stipulations are as follows:

1. Open to leasing with minor restrictions (timing limitations).

No surface use is allowed from March 15 to October 15. This stipulation does not apply to operation and maintenance of production facilities.

2. Open to leasing with minor restrictions (controlled surface use).

Unless otherwise authorized, access to this leasehold will be limited to the existing roads and trails.

A leasing notice providing guidance for plan development will be included on all leases. Section 7 consultation will be completed prior to any surface disturbance in desert tortoise habitat.

FIRE MANAGEMENT

Initiate full suppression activities with minimum surface disturbances to reduce loss of tortoise cover and to minimize the spread of exotic annual grasses.

Require consultation with a qualified Resource Advisor for all wildfires within ACECs.

Restrict OHV travel and the use of tracked vehicles to the minimum necessary to suppress wildfires in ACECs; obliterate all tracks to reduce possibility of future use.

Authorize use of aerial retardant; foam or fugitive retardant is preferable to iron oxide retardant.

Do not authorize burning out of unburned fingers or islands of vegetation. The exception to this case would be the removal of fuels for safety concerns.

Establish fire camps, staging areas, and helispots in previously disturbed areas outside of ACECs, where possible, in consultation with a qualified Resource Advisor.

Use prescribed fire or other tools consistent with recovery goals and objectives to help reduce the burn-reburn cycle.

Provide all firefighters and support personnel with a briefing on desert tortoises and their habitat to minimize take, particularly that associated with vehicle use.

TRANSPORTATION/PUBLIC ACCESS

Close and rehabilitate any existing roads within ACECs where no public or administrative need can be demonstrated (e.g. two roads that parallel each other to the same destination). Public participation process will be used to identify any road closures, with input solicited from all interested parties prior to the issuance of any decisions.

Restrict the establishment of new permanent roads. Allow temporary upgrading of existing roads only to reduce impacts on tortoise habitat.

Allow new access routes only on a temporary basis or if positive benefits to desert tortoise would occur. Require reclamation of any temporary roads.

Reroute roads where feasible to improve manageability of habitat.

Implement closure to vehicular access, with the exception of designated routes.

Coordinate with USFWS, Lincoln County Road Department, and NDOT to identify any roads and trails that are the cause of tortoise mortality due to impacts from vehicles when possible. Fence and install culverts along these and other roads when appropriate to allow for the safe passage of tortoises.

MANAGEMENT OF DESERT TORTOISE HABITAT OUTSIDE OF SPECIAL MANAGEMENT AREAS

Objective

Maintain or improve existing habitat conditions for desert tortoise habitat to stabilize desert tortoise populations at existing trend levels.

SPECIAL STATUS ANIMAL SPECIES

Management Direction

Initiate coordination with the USFWS, NDOW, and the U.S. Department of Agriculture-Wildlife Services to control desert tortoise predators when necessary.

Participate in USFWS developed environmental education programs on special status animal species.

Implement and/or participate in an approved interagency (NDOW, USFWS, BLM, Nevada Natural Heritage Program, BRD and MOG) monitoring program for special status animal species.

FORESTRY AND VEGETATIVE PRODUCTS MANAGEMENT

Management Direction

Authorize commercial desert vegetation harvest of seed based on NEPA analysis and Section 7 consultation.

Authorize desert plant salvage based on NEPA analysis and Section 7 consultation.

Authorize desert plant harvest for educational or scientific purposes in desert tortoise habitat through scientific research permits.

SPECIAL STATUS PLANT SPECIES

Management objectives and direction would be the same as those described under **Special Management Areas**.

LIVESTOCK GRAZING MANAGEMENT

Management Areas

Those allotments or portions of allotments that are outside of the ACECs would remain open to livestock grazing (refer to Map 2-4).

Management Direction

Season of Use

Establish season of use on all perennial allotments through the Allotment Evaluation and Multiple-Use Decision processes and subsequent allotment management plans or equivalent activity plans. Table 2-4 displays proposed season of use and total AUMs outside of proposed ACECs.

In the future, Section 7 consultation may occur on a case-by-case basis for grazing management through an allotment management plan or grazing system other than outlined in this plan.

Grazing Management Actions

Range Improvements

Construct improvements as needed to facilitate multiple use.

Initial Stocking Level

Allotments or portions of allotments within desert tortoise habitat, but outside of ACECs, would remain at current stocking levels (see Table 2-4). Make changes in permitted use on allotments, based on monitoring and determinations made through the allotment evaluation process in accordance with rangeland health standards.

Conversions from cattle to sheep would not be allowed within the Planning Area.

Constraints on Livestock Grazing

For areas outside of the ACECs, livestock use may occur March 15 to October 15, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs and shrubs. Between October 15 and March 15, livestock use may occur as long as forage utilization does not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs (USFWS 1991 as amended). These constraints would be applied to the allotments listed in Table 2-4.

Allotment Categorization

Allotment categories would remain unchanged for those allotments outside of ACECs.

Use Adjustment Criteria

Use adjustments for all allotments would be based on results of monitoring studies and determinations made through the Allotment Evaluation and Multiple Use Decision process in accordance with rangeland health standards

WILD HORSE AND BURRO MANAGEMENT

Management Areas

Existing HMAs within desert tortoise habitat include the Mormon Mountains, Meadow Valley Mountains, and Blue Nose Peak HMAs, with boundaries as depicted on Map 2-10.

Management Direction

Continue to manage the Meadow Valley Mountains and Blue Nose Peak HMAs for wild horses and burros and as HMAs.

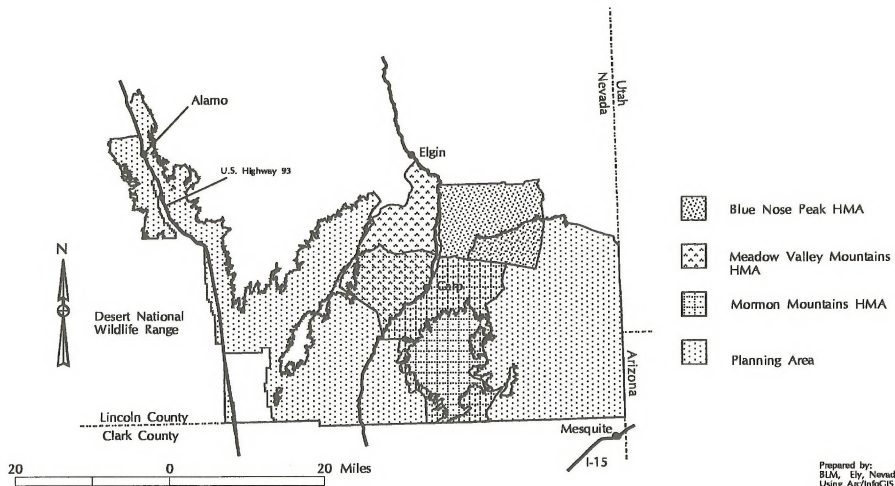
The existing Mormon Mountains HMA would no longer be managed for wild horses and burros, since there are no physical barriers to restrict the animals' movement into the Mormon Mesa ACEC. No facilities would be constructed to inhibit the wild and free-roaming nature of the wild horses and burros. The area will lose its status as an HMA, but will maintain Herd Area status, for future management consideration, should conditions change.

Table 2-4. Proposed season of use and permitted use outside of proposed ACECs.

ALLOTMENT	SEASON OF USE	PERMITTED USE
Boulder Spring	10-1 to 3-31	416
Breedlove	3-1 to 2-28	698
Buckhorn	3-1 to 2-28	3,370
Delamar	3-1 to 2-28	5,558
Flat Top Mesa	*E	*E
Garden Spring	10-1 to 5-31	2,809
Gourd Springs	10-1 to 5-31	3,239
Grapevine	3-1 to 2-28	349
Henrie Complex	3-1 to 2-28	4,160
Jackrabbit	*E	*E
Lime Mountain	10-1 to 5-15	6,754
Lower Lake East	3-1 to 2-28	640
Lower Lake West	3-1 to 2-28	1,247
Lower Riggs	5-1 to 3-24	1,408
Mormon Peak	3-1 to 2-28	600
Pahrnagat East	8-1 to 5-31	511
Pahrnagat West	10-1 to 5-31	2,144
Pulsipher Wash	*E	*E
Snow Spring	10-1 to 5-31	3,567
Summit Spring	10-1 to 5-15	715
Terry	11-1 to 5-31	1,511
White Rock	10-1 to 5-31	2,880
*E-Ephemeral Allotment (see Glossary) (Source: BLM, Caliente Field Station data, 1996)		

Wild Horse Herd Management Areas Within the Planning Area

Map 2-10



Herd Size

Establish appropriate management levels (AML) within the Meadow Valley Mountains and Blue Nose Peak HMAs, as determined through monitoring of the animal population, forage, water, riparian, and other ecosystem management objectives.

No AML is established for the Mormon Mountains Herd Area and all wild horses and burros will be removed.

Resource Constraints

Wild horse and burro use within the Meadow Valley Mountains and Blue Nose Peak HMAs may occur between March 15 and October 15, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs, and shrubs.

Between October 15 and March 15, wild horse and burro use within the Meadow Valley Mountains and Blue Nose Peak HMAs may occur as long as forage utilization does not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs as modified by the BLM (USFWS, 1991 as amended). These utilization levels will be used in the establishment of AMLs for the Meadow Valley Mountains and Blue Nose Peak HMAs. Should AMLs be exceeded, excess animals will be removed.

Wild Horse and Burro Ranges

No new wild horse and burro ranges are recommended for approval by the Director.

Activity Planning

Herd Management Area Plans will be developed for HMAs. The Mormon Mountains Herd Area will not have a Herd Management Plan developed, since the area is not established as a HMA.

LANDS MANAGEMENT

Management Direction

Retain all designated critical desert tortoise habitat outside of ACECs. Allow no disposal of designated critical desert tortoise habitat public lands through FLPMA sales or exchanges, Carey Act, Desert Land Act, Indian Allotment Act, Recreation and Public Purposes Act, or the Airport and Airways Improvement Act. An exception to this is to allow for disposal of the legislatively leased lands (P.L. 100-275), through exchange for lands legislatively conveyed lands (P.L. 100-275). This exception would be allowed because BLM would obtain critical habitat for critical habitat and there would be no net loss of critical habitat. Those private lands acquired through such an exchange would be included in the Kane Springs ACEC.

Public lands that are desert tortoise habitat but are outside of the ACECs and are not designated as critical desert tortoise habitat may be disposed of through the appropriate land laws. For this planning area, the Desert Land Act, Carey Act, and the Indian Allotment Act are not appropriate laws for disposal of public lands. See appendix C for descriptions of the public lands available for disposal.

Provide qualified applicants with land use authorizations, as demonstrated need arises and resource constraints are met.

Provide support to other BLM resource programs by acquiring lands or rights in lands through appropriate authorities.

Pursue segregation by withdrawal under the authority of Sec. 204 of FLPMA, for areas where resource protection is needed.

Pursue trespass prevention, detection, abatement, and resolution consistent with appropriate laws and land use planning.

The ESA requires that section 7 consultations will be conducted for any land disposals within desert tortoise habitat. Entities purchasing these lands will be notified of their obligations under the ESA (specifically the need to comply with section 9) and referred to the Service for information on obtaining an incidental take permit under section 10 of the Act. Lands considered for disposal are identified in **Appendix C**.

RIGHTS-OF-WAY MANAGEMENT

Management Direction

Management direction for rights-of-way in desert tortoise habitat would be the same as that described for ACECs, with the following exceptions.

Material sites rights-of-way would be considered consistent with this plan.

Areal rights-of-way applications would be considered based upon NEPA analysis and Section 7 consultation.

Require Standard Operating Procedures, as needed to implement mitigation measures for rights-of-way activities (see **Appendix E**).

RECREATION MANAGEMENT

Casual OHV Use

Casual OHV use is limited to existing roads and vehicle trails.

Organized OHV Use

Allow speed and non-speed competitive events to occur on existing roads and vehicle trails.

General Recreation

Establish sites for parking and camping where appropriate and necessary to accommodate use or to reduce or avoid resource degradation.

MINERALS MANAGEMENT

Locatable Minerals

Management Direction

BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward. Operators submitting a notice for activities within desert tortoise habitat, but outside of ACECs, will be informed by BLM of their responsibilities to comply with specific provisions of the ESA.

Require Standard Operating Procedures, as outlined in Appendix E, to be implemented for locatable minerals activities within desert tortoise habitat.

Fluid Minerals

Management objectives and direction would be the same as those described under the Special Management Area section of the Proposed Action. If a jeopardy opinion is issued from the USFWS, the operation would be modified until a no jeopardy is issued or no drilling would occur.

Mineral Materials

Management Direction

Desert tortoise habitat would remain open for mineral material disposal.

Require implementation of those Standard Operating Procedures for all mineral material activities in desert tortoise habitat (see Appendix E). BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

Non-Energy Leasable Minerals

Management Direction

All desert tortoise habitat would remain open to non-energy mineral leasing.

Apply Standard Operating Procedures to prevent undue or unnecessary surface disturbance (see Appendix E). BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must

also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

FIRE MANAGEMENT

Management Direction

Management direction would be the same as that for the ACECs, described under the Special Management Area section of the Proposed Action.

TRANSPORTATION/PUBLIC ACCESS

Install tortoise caution signs at entry points to desert tortoise habitat (e.g. Kane Springs Road, Meadow Valley Wash).

ALTERNATIVE A (HABITAT MANAGEMENT ALTERNATIVE)

Objective

The objective for this alternative would be to assist the recovery and delisting of the Mojave population of desert tortoise in the Northeastern Mojave Recovery Unit, within the context of continuing multiple use management. Alternative A contains four major components: 1) designation of three ACECs with associated management prescriptions; 2) management prescriptions for desert tortoise habitat outside of the proposed ACECs; 3) participation in a USFWS-developed and implemented environmental education program; and 4) implementation of a USFWS-approved interagency monitoring program.

Management Direction

This alternative contains management directions that are identical to those described under the Proposed Action, with the exception of Livestock Grazing, Minerals and Recreation Management. Forage consumption would be managed within the proposed Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs at a level that would meet the reproductive needs of adult tortoise and throughout desert tortoise habitat. OHV use would be limited to existing roads and trails in the proposed ACECs. Vehicle use outside of the ACECs would remain open, consistent with approved OHV designations. Activity plans would be completed, as needed, to implement specific decisions. All ACECs will be open to mineral activities with restrictions. Management directions that are unique to Alternative A are described below:

LIVESTOCK GRAZING MANAGEMENT

Management Areas

Map 2-4 displays those allotments or portions of allotments located within the proposed ACECs.

Management Direction

Allotments or portions of allotments within ACECs and desert tortoise habitat would remain open to cattle grazing, and closed to sheep grazing.

Season of Use

Establish season of use on all perennial allotments through the Allotment Evaluation and Multiple-Use Decision processes and subsequent allotment management plans or equivalent activity plans.

Grazing Management Actions

Range Improvements

Construct improvements only as needed to facilitate multiple use.

Allotment Categorization

Allotment categories would remain unchanged for allotments within ACECs and desert tortoise habitat.

Initial Stocking Level

Make changes in permitted use on allotments, based on monitoring and determinations made through the allotment evaluation process in accordance with rangeland health standards.

Constraints on Livestock Grazing

Within ACECs

Manage livestock grazing according to the following criteria developed by Tracy, (pg. 14, unpublished draft manuscript, 1995):

- 1) Stock cattle only in years when food for tortoises is at least 2 times that necessary for full tortoise reproduction (e.g. 32 g/sq. meter, 320 kg/ha, or 288 lbs/acre).
- 2) Stock cattle at densities so that their consumption of forage never results in reductions of the biomass of spring annuals to levels below 16 g/sq meter (i.e. twice the level minimally necessary for the full reproduction by adult desert tortoises).
- 3) Stock at rates that protect the shrubs from being reduced in size from year to year.
- 4) Stock at rates traditionally specified to protect winter forage species for domestic grazers
- 5) Allow cattle to graze only under conditions in which ALL of the above criteria are met.

If the above-listed criteria are met by March 15 and livestock grazing is authorized, manage livestock grazing so that forage utilization does not exceed 40 percent on key perennial grasses, forbs, and shrubs, between March 15 to October 15. Manage livestock grazing between October 15 and March 15 so that forage utilization does not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

Use Adjustment Criteria

Use adjustments for all allotments would be based on results of monitoring studies and determinations made through the Allotment Evaluation and Multiple Use Decision process in accordance with rangeland health standards.

RECREATION MANAGEMENT

Management direction for recreation management under Alternative A would be the same as that described for the Proposed Action with the following exceptions:

Within ACECs

Casual OHV Use

Designate ACECs as limited to existing roads and vehicle trails for OHVs. Sign the perimeter of ACECs at access points identifying the areas as "limited to existing roads and trails" for vehicle use.

Organized OHV Use

Allow speed competitive OHV events to pass through ACECs on designated, maintained roads (see Map 2-8) during the tortoise inactive season (October 15-March 15).

Close ACECs to speed competitive events during the tortoise active season.

Allow non-speed competitive and non-competitive OHV events to pass through ACECs on roads designated open to organized OHV use without seasonal restrictions. Vehicle off-loading areas, if authorized within tortoise habitat, would be limited to areas of existing disturbance, and of sufficient size to accommodate the number of vehicles involved without expanding the disturbed area. Appendix D describes stipulations that would be attached to all Special Recreation Permits for organized OHV events in desert tortoise habitat.

MINERALS

Under this alternatives all of the ACECs would be open to mineral entry. Kane Springs ACEC would remain open to leasable, locatable and mineral material mineral entry. The locatable and fluid and solid minerals will be conducted with the same restrictions as described in the proposed action for the Mormon Mesa and Beaver Dam Slope ACEC in the proposed action.

Mineral materials would remain open to sales and free use operations. BLM must ensure through the review of the plan of operation and development of the mitigation measures that the impacts from the operation do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. The operator, USFWS and BLM must also reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. If it is determined that through the review of the plan of operation and the use of mitigation measures that the operation is not below the jeopardy or adverse modification threshold, the project would not go forward.

Require Standard Operating Procedures, as needed, to be implemented for mineral materials activities (see Appendix E). These operating procedures include reclamation requirements which will outline the standards that must be met before the reclamation is released. These standards are subject to change based on the site specific conditions at the site and with consultation with the USFWS.

ALTERNATIVE B (DWMA ALTERNATIVE)

Objective

The focus of this alternative is to assist the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit, in accordance with the management goals and prescriptions recommended by the Recovery Plan. This alternative emphasizes habitat protection with less regard for multiple use management of desert tortoise habitat. Alternative B contains three major components: 1) identification of two DWMA's with associated management prescriptions; 2) participation in a USFWS developed and implemented environmental education program; and 3) implementation of a USFWS-approved interagency monitoring program. In addition should the lands legislatively leased or conveyed through P.L. 100-275 become available, the BLM would attempt to acquire them and include them in the Mormon Mesa DWMA.

Alternative B would identify two DWMA's, encompassing approximately 307,000 acres (Map 2-11). The DWMA's would include 52 percent (126,700 acres) of the critical desert tortoise habitat designated by the USFWS in Lincoln County (Map 2-11). Management prescriptions for the DWMA's were recommended in the Recovery Plan and these would emphasize habitat protection. A number of management recommendations from the Recovery Plan were not brought forward into this alternative, as a result of coordination with the USFWS. Activity plans would be developed, as needed, to implement specific decisions. The following describes only those programs or resources where changes in management objectives and direction from the approved Caliente MFP are proposed.

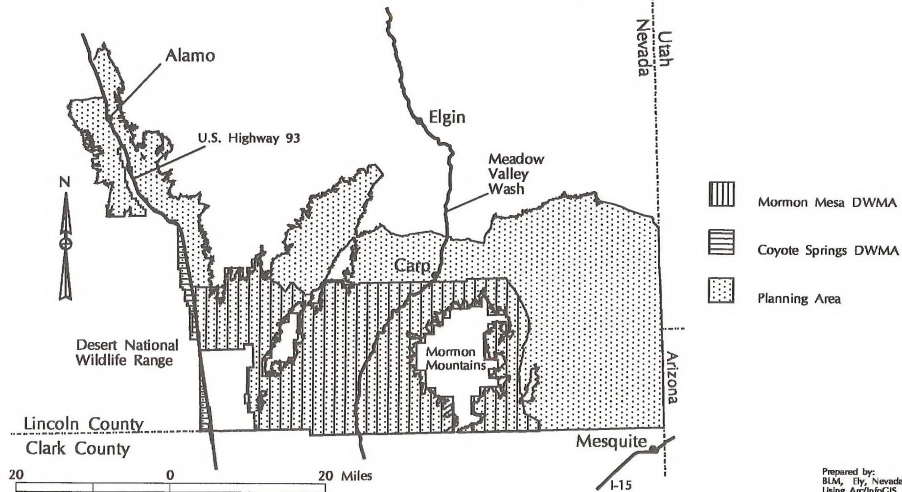
SPECIAL MANAGEMENT AREAS

The Recovery Plan recommended general areas where SMA's should be established within recovery units. Whenever possible, SMA boundaries were drawn to include the best examples of desert tortoise habitat in specific vegetation regions. In addition, heterogeneous terrain, soil types, and vegetation within SMA's will provide protection for the entire ecosystem upon which healthy desert tortoise populations depend. The array of recommended sizes and shapes for Special Management Areas (SMA's) within the Northeastern Mojave Recovery Unit are addressed on page 35 of the Desert Tortoise (Mojave Population) Recovery Plan. The minimally acceptable arrangement within a Recovery Unit (where it is not possible for one or more round-shaped SMA(s) of 1,000 square miles each) is for a combination of smaller SMA's (connected by corridors of suitable habitat) totalling at least 1,000 square miles. Delisting criterion No. 2 (USFWS, p. ii, 1994a), however, specifies that more intensive management can be used to compensate for fewer acres of habitat protected in SMA's. The reader is reminded, however, that the planning area is just a small part of the Northeastern Mojave Recovery Unit and was never expected to meet the Recovery Unit objectives on its own. See the Cumulative Impacts section for an analysis of the impacts of the contribution of this planning effort in relationship to the other planning efforts for desert tortoise within the Northeastern Mojave Recovery Unit.

SMA selection and boundary delineation has been accomplished by land management agencies in coordination with the USFWS, and State wildlife agencies, after soliciting input from other interested parties. The design of the SMA's has met as many of the reserve design criteria as possible as outlined in the Recovery Plan (USFWS 1994a). Map 2-11 shows the locations of the proposed DWMA's described below; total acreage would be approximately 307,000 acres in two areas.

Proposed Desert Wildlife Management Areas Within the Planning Area

Map 2-11



Designate approximately 307,000 acres of desert tortoise habitat, including both designated critical habitat and non-critical habitat, as DWMAs, in the following areas (see Map 2-12):

Coyote Springs DWMA - 9,600 acres

Mormon Mesa DWMA - 297,400 acres

COYOTE SPRINGS DWMA

Values: Habitat for federally-listed threatened desert tortoise, banded gila monster, chuckwalla, and many sensitive species, including several bats. The federally-listed endangered Southwestern Willow flycatcher and peregrine falcon may also occur in this area.

Acreage: Approximately 9,600 acres

MORMON MESA DWMA

Values: Habitat for the federally-listed threatened desert tortoise banded gila monster, chuckwalla. Other sensitive species, including the endemic fish species of Meadow Valley Wash and several species of bats, also occur in this area.

Acreage: 297,400 acres

MANAGEMENT DIRECTION FOR THE DWMAS

Develop Management Plans for each DWMA.

Special Status Animal Species/Wildlife Habitat Management

Authorize non-intrusive monitoring of desert tortoise habitat and population dynamics.

Designate up to 10 percent of a DWMA as an EMZ where a variety of experimental research activities (including intrusive research on desert tortoise) may be permitted during the recovery period. Locate EMZs on the peripheries of the DWMAs.

Authorize non-intrusive and non-manipulative biological and geological research.

Authorize biological research and specimen collection only by permits after NEPA analysis and Section 7 consultation.

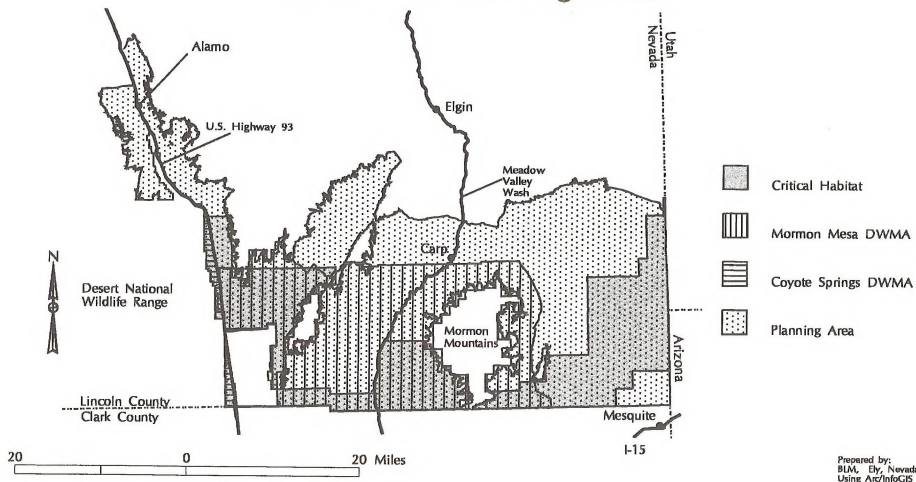
Authorize the deposition of captive or displaced desert tortoise only through approved translocation research projects.

Authorize population augmentation or enhancement activities for native wildlife species (e.g. desert bighorn or Gambel's quail).

Authorize only those surface-disturbing activities that would enhance the quality of desert tortoise and other wildlife habitat, improve watershed conditions, or enhance opportunities for non-motorized recreation. Visitor centers, camping facilities, and wildlife guzzlers may be constructed, where appropriate.

Proposed Desert Wildlife Management Areas and Designated Critical Habitat Within the Planning Area

Map 2-12



Prepared by:
BLM, Elko, Nevada
Using Arc/InfoGIS

Fence or otherwise establish effective barriers to tortoise along heavily traveled roads; install culverts that allow underpass of tortoises along U.S. Highway 93.

Construct desert tortoise barrier fences and underpasses along the Union Pacific Railroad line.

Implement a USFWS-approved interagency monitoring plan.

Participate in USFWS developed environmental education programs.

Forestry and Vegetative Products

Authorize desert vegetation harvest (seed and/or plants) by permit only within DWMAs and after NEPA analysis and Section 7 consultation.

Livestock Grazing Management

Management Areas

Close those allotments or portions of allotments that are within the Coyote Springs and Mormon Mesa DWMAs to livestock grazing (Maps 2-13 and 2-14). Table 2-5 displays those allotments partially or entirely within the proposed DWMAs.

Season of Use

No season of use would be authorized for the following allotments or portions of the allotment within the DWMAs:

- Breedlove
- Delamar
- Grapevine
- Gourd Spring
- Henrie Complex
- Lower Lake East
- Mormon Peak
- Rox-Tule
- White Rock

Grazing Management Actions

Range Improvements

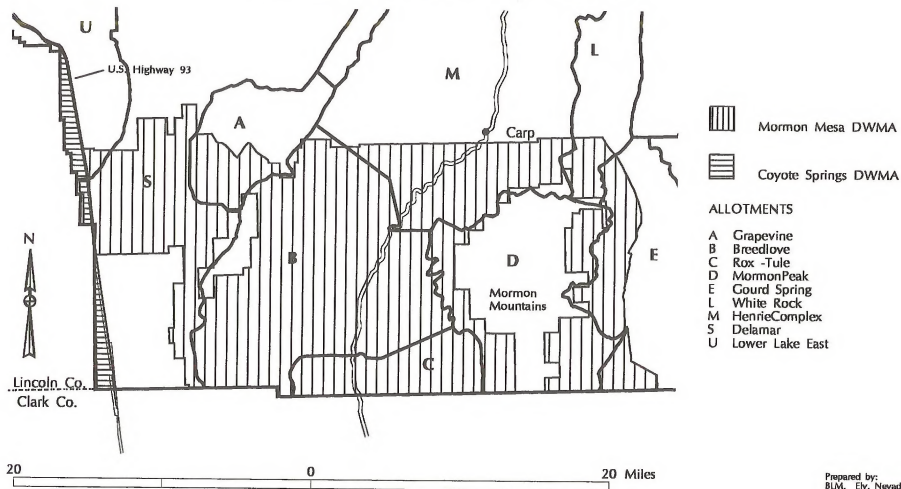
Construct improvements only as needed to facilitate multiple use management and to exclude livestock grazing from the Coyote Springs and Mormon Mesa DWMAs.

Allotment Categorization

Allotment categories would remain unchanged for allotments within DWMAs.

Grazing Allotments Within Proposed Desert Wildlife Management Areas

Map 2-13



Prepared by:
BLM, Ely, Nevada
Using ArcInfoGIS

Cattle Use Areas by Allotment Within Proposed Desert Wildlife Management Areas

Map 2-14

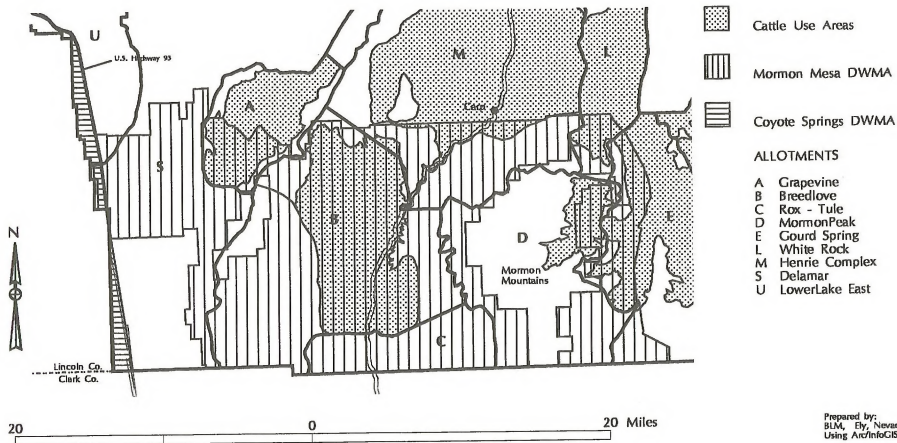


Table 2-5. Allotments partially or entirely within proposed DWMAS.

ALLOTMENT	TOTAL ACRES ALLOTMENT	TOTAL ACRES OF ALLOTMENT IN DWMA	PERCENTAGE OF ALLOTMENT WITHIN DWMA
MORMON MESA DWMA			
Breedlove	121,500	114,100	94
Delamar	245,400	47,000	19
Grapevine	34,200	12,400	36
Gourd Springs	97,200	22,200	23
Henrie Complex	169,100	36,200	21
Lower Lake East	53,700	1,400	3
Mormon Peak	77,900	32,300	42
Rox-Tule	25,600	25,600	100
White Rock	33,000	6,200	94
TOTALS	858,100	297,400	average 35
COYOTE SPRINGS DWMA			
Delamar	245,400	4,900	2
Lower Lake East	53,700	4,700	9
TOTALS	299,100	9,600	average 3

Initial Stocking Level

Current and proposed permitted use for allotments or portions of allotments within the Coyote Springs and Mormon Mesa DWMA's would be according to Table 2-6. Make changes in permitted use on allotments, through the Allotment Evaluation and Multiple Use Decision process in accordance with rangeland health standards.

Use Adjustment Criteria

Use adjustments would be based on results of monitoring studies and determinations made through the Allotment Evaluation and Multiple Use Decision process.

Wild Horse and Burro Management

Management Direction

Continue to manage the Blue Nose Peak HMA for wild horses and burros (see Map 2-15).

The Mormon Mountains and Meadow Valley Mountains HMAs would no longer be managed for wild horses and burros, since no physical barriers are present to restrict the animals' movement into the Mormon Mesa DWMA. No physical barriers will be constructed to restrict the wild and free-roaming nature of the wild horses and burros. These two areas would lose their status as HMAs, but will retain Herd Area status for future management consideration, should conditions change.

Table 2-6. Current and proposed permitted use for allotments within proposed DWMA's.

ALLOTMENT	CURRENT PERMITTED USE	PROPOSED PERMITTED USE
Lower Lake East	0	0
Delamar	0	0
Grapevine	217	0
Breedlove	756	0
Rox-Tule	756	0
Mormon Peak	217	0
Gourd Spring	974	0
Henrie Complex	228	0
White Rock	432	0
(Source: BLM, Caliente Field Station Data, 1996)		

Management areas, adjustment criteria, resource constraints, and management direction are the same as those described for Proposed Action, with the following exception:

Herd Size

Establish the AML for the Blue Nose Peak HMA, as determined through monitoring of the animal population, forage, water, riparian, and other ecosystem management objectives.

No AMLs are established for the Mormon Mountains and Meadow Valley Mountains Herd Areas and all wild horses and burros would be removed.

Lands Management

Disposal

Allow no disposal of public land through FLPMA sales, exchanges, Desert Land, Indian Allotment, Carey, R&PP, or Airport and Airway Improvement Act.

Allow no new landfills through the R&PP Act.

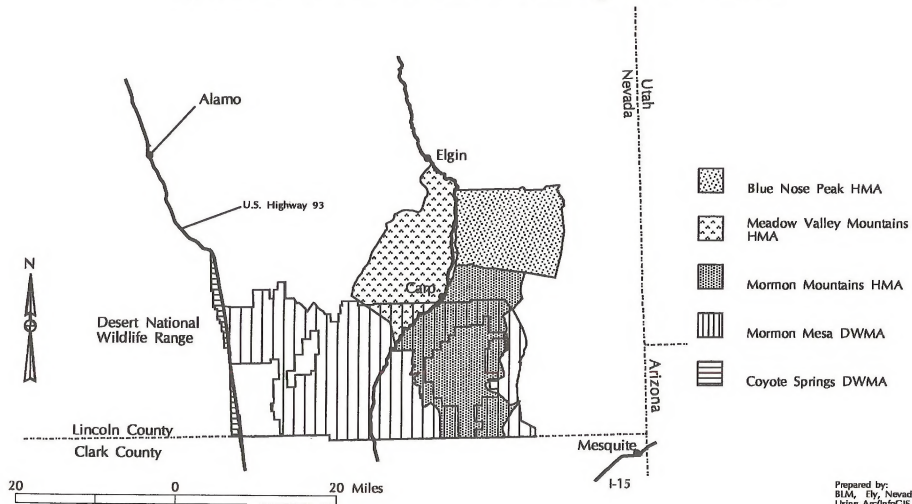
Land Use Authorizations

Authorize no airport leases (43 CFR 2911) or FLPMA leases (43 CFR 2920).

Issue only FLPMA minimum impact permits, to be evaluated based on NEPA analysis and Section 7 consultation.

Wild Horse Herd Management Areas Within Proposed Desert Wildlife Management Areas

Map 2-15



Prepared by:
BIM, Ely, Nevada
Using Arc/INFO GIS

Approve R&PP Act lease applications based on NEPA analysis and Section 7 consultation.

Retain in federal ownership those lands leased to Harrich Investments, LLC (formerly Aerojet) under Public Law 100-275. Upon termination, expiration, or relinquishment of those leases, include those lands within the Mormon Mesa DWMA.

Acquisitions

Encourage local governments and private individuals to purchase environmentally sensitive private lands within DWMA that could be exchanged for public lands outside DWMA.

Acquire private lands or rights within DWMA from willing sellers.

Acquire private lands of Harrich Investments, LLC (formerly Aerojet Corporation) through appropriate authorities and include them in the Mormon Mesa DWMA, should they become available.

Un-authorized Use

Resolve unauthorized use to retain lands as public lands.

Reclaim surface disturbances from unauthorized uses to as close to pre-disturbance conditions as practicable.

Withdrawals

Allow administrative withdrawals or public land orders for the construction of public information/environmental education facilities on lands within DWMA, but outside of WSAs.

Rights-of-Way Management

Utility/Transportation Corridors

Retain the legislatively-designated corridor (Public Law 100-275) that crosses the proposed Mormon Mesa DWMA.

Corridors to be designated

Do not designate new corridors within DWMA.

Corridor Terms and Conditions

Do not grant new rights-of-way outside of corridors.

Consider designated Wilderness Areas as right-of-way exclusion areas, unless otherwise stated in the enabling legislation.

Areal Rights-of-Way

Do not authorize communication sites requiring new surface disturbance.

Material Site Rights-of-Way

Consider existing material site rights-of-way (both developed and undeveloped), issued under the Federal Aid Highway Act, as inconsistent with the land use plan and BLM policies.

Do not authorize any activity associated with the transport of oil and gas that would cause surface disturbance within DWMAs.

Recreation Management

Designate all areas within DWMAs as limited to designated roads for OHV use. Routes designated as open would be signed and would be subject to a speed limit appropriate to the terrain. Routes designated as closed will be signed or obliterated or both.

Close DWMAs to all competitive or organized events.

Designate and construct as necessary appropriate areas for parking and camping, and restrict such activities to those designated areas.

Allow non-consumptive recreation uses, such as hiking, birdwatching, casual horseback riding, and photography, that do not disturb desert tortoise habitat to continue within DWMAs.

Improve opportunities for non-motorized recreation where appropriate and consistent with the recovery and delisting of the desert tortoise. This would include, but not be limited to, the construction of a visitor center and wildlife guzzlers in the DWMAs.

Wilderness Management

Continue to manage WSAs within DWMAs under IMP. Where a conflict exists between IMP and DWMA management prescriptions, manage according to the standard that best protects the desert tortoise and its habitat.

Should Congress release WSAs within DWMAs from further consideration as wilderness, manage those areas under the management prescriptions developed for the DWMAs.

Limit vehicle travel within WSAs to those routes (ways) that are designated as "open". Some routes (ways) may be signed as "closed" to achieve goals and objectives for desert tortoise habitat management and/or for the management of wilderness values.

Minerals Management

The Coyote Springs and Mormon Mesa DWMAs would be withdrawn from mineral entry under the following public laws:

1. General Mining Law of 1872, as amended.
2. Mineral Leasing Act of 1920, as amended and supplemented.
3. Mineral Leasing Act for Acquired Lands of 1947, as amended.
4. Geothermal Steam Act of 1970, as amended.
5. Mineral Material Act of July 31, 1947, as amended.
6. Surface Use and Occupancy Act of July 23, 1955.

Close the Coyote Springs and the Mormon Mesa DWMAs to mineral entry. Close the Coyote Springs and

Mormon Mesa DWMA's to fluid and non-energy mineral leasing, to the operations of the General Mining Law, subject to valid existing rights; and to mineral material disposal.

Existing mining claims would have valid existing rights and mining operations could occur in the ACEC. The withdrawal could take several years before it is designated closed and any mining claim within the withdrawal would have existing rights under the mining law. The BLM would be required to perform validity exams on the existing claims to determine if they are valid claims before any operation may proceed within the ACEC. The operation can proceed once the review of the plan of operation, NEPA review, and section 7 consultation has occurred.

Transportation/Public Access

Restrict establishment of new roads in DWMA's.

Implement closure to vehicle access, with the exception of designated routes, including federal, state, and county maintained vehicle routes.

Implement emergency closure of dirt roads and routes, as needed, to reduce human access and disturbance in areas where human-cause mortality of desert tortoises is a problem.

Fence or otherwise establish effective barriers to tortoises along heavily-traveled roads.

Install culverts that allow underpass of tortoises to alleviate habitat fragmentation.

MANAGEMENT OF DESERT TORTOISE HABITAT OUTSIDE OF SPECIAL MANAGEMENT AREAS

According to the Recovery Plan, no special management attention need be directed to desert tortoise populations or habitat outside of DWMA's, unless those populations are determined to be at risk. Section 7 consultation with the USFWS would, however, continue to be completed prior to the authorization of any activity within desert tortoise habitat outside of DWMA's. The consultation would include consideration of potential impacts to the DWMA's from activities outside them.

ALTERNATIVE C (NO ACTION ALTERNATIVE)**Objective**

Alternative C (No Action Alternative) would continue management decisions and actions as approved in the Caliente MFP and approved activity plans. The MFP objectives and direction have been maintained and updated to conform with current BLM regulations and policy. The requirements of Section 7 of the ESA have also modified direction contained in the approved land use plan. This alternative, required by NEPA for comparative purposes, serves as a baseline against which to evaluate the environmental consequences of implementing the Proposed Action or alternative.

The following describes only those objectives and management directions by resource program that relate to desert tortoise habitat management. All MFP objectives and directions, as well as approved activity level plans for resource management outside of desert tortoise habitat, would remain in effect. Section 7 consultation would continue to be required prior to the authorization of surface-disturbing activities in desert tortoise habitat.

SPECIAL STATUS SPECIES/WILDLIFE HABITAT MANAGEMENT**Objectives**

Sponsor or conduct the research, studies, and inventories necessary to insure adequate data for decision-making relative to expansion, improvement and maintenance of wildlife habitat. Specific priorities include identification of the habitat for the following: Federal threatened or endangered species, and State rare and sensitive species.

Re-establish native fauna on historic range or use areas and increase species diversity/distribution of desired animals throughout a variety of habitat types.

Provide sufficient quantity and quality of food, cover, and shelter to satisfy the demands of all species utilizing habitat in the planning unit through habitat improvement methods.

Maintain habitat conditions through surveillance, acquisition, or management decision to continue existing species populations until activity plans are developed.

Management Direction

Prepare habitat management plans for desert tortoise and banded gila monster.

Protect the habitat of desert tortoise and other reptiles through protective stipulations in the environmental process.

Require the maximum utilization of existing roads and trails by competitive OHV groups and other intensive use groups and organizations.

FORESTRY AND VEGETATIVE PRODUCTS MANAGEMENT**Objective**

Study, manage, and allow sale of desert vegetation.

Management Direction

Conduct inventories on cactus and other succulent vegetation in the Delamar Valley and upper Tule Desert (two major concentrations) to develop ecological and phenological database on desert plants.

Complete inventories prior to the initiation of a desert vegetation sale program.

Precede any proposed new materials sites, road rights-of-way, or vegetative manipulation sites within desert vegetation types with either free-use or vegetative sales to prevent total loss of that resource.

LIVESTOCK GRAZING MANAGEMENT**Objective**

Continue to manage grazing of domestic livestock on the public lands for livestock forage as long as the grazing practices promote a healthy, sustainable rangeland ecosystem.

Increase livestock forage production and availability through vegetative treatment that provide for multiple use management.

Encourage and assist the grazing permittees to develop range improvements that facilitate multiple use management and improve the condition of the rangeland ecosystem.

Management Areas

All allotments or portions of allotments that are within desert tortoise habitat are open to livestock grazing.

Management Direction**Initial Stocking Level**

Make changes in permitted use on allotments supported by monitoring and determinations made through the allotment evaluation process.

Season of Use

Establish season of use on all perennial allotments through coordination and consultation and subsequent development of allotment management plans or in conjunction with development of grazing systems. For season of use guidelines, refer to the "Constraints on Livestock Grazing" section below.

Constraints on Livestock Grazing

Livestock grazing would be conducted in accordance with the Biological Opinions for BLM's *Interim Rangeland Livestock Grazing Program in Mojave Desert Tortoise Critical Habitat* (USFWS 1991, 1994c). The following grazing prescriptions are in effect for allotments in designated critical habitat:

Prescription 1 guidelines allow livestock use between June 15 and October 14 as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs, and shrubs and from October 15 to February 28 as long as utilization does not exceed 50 percent on key perennial grasses and 40 percent on key shrubs and perennial forbs. Livestock use will not occur from March 1 to June 14 (USFWS, 1991).

The following allotments or portions of allotments would be grazed according to Prescription 1 guidelines:

Beacon
Breedlove
Gourd Spring
Grapevine
Henrie Complex
Lower Lake East
Mormon Peak
Rox-Tule
Sand Hollow
Snow Spring
Terry

Prescription 2 guidelines allow for livestock grazing to occur between March 1 and October 14, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs, and shrubs and between October 15 and February 28, as long as forage utilization does not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

Period-of-use for the following allotments or portions of the allotment would be according to Prescription 2 guidelines:

Boulder Springs	Mormon Peak
Delamar	Pahranagat East
Flat Top Mesa	Pahranagat West
Garden Spring	Pulsipher Wash
Gourd Spring	Snow Spring
Henrie Complex	Summit Spring
Jackrabbit	White Rock
Lime Mountain	
Lower Riggs	
Lower Lake West	

Allotment Categorization

Allotment categories would remain unchanged.

Use Adjustment Criteria

Use adjustment criteria for all allotments would be based on results of monitoring studies and determinations made through the allotment evaluation process.

WILD HORSE AND BURRO MANAGEMENT

Objectives

Manage wild horse and burro populations in those areas (Wild Horse and Burro Herd Areas) where they existed at the passage of the Wild Free-Roaming Horse and Burro Act (PL-92-195) on December 15, 1971.

Obtain information on wild horses and burros in the existing herd management areas through the use of inventories and studies.

Maintain the wild, free-roaming characteristics of the wild horses and burros on the public lands.

Management Areas

Wild horse HMAs within the planning unit include the Mormon Mountains, the Meadow Valley Mountains, and Blue Nose Peak HMAs (refer to Map 2-6).

Management Direction

Herd Size

Establish AMLs within the HMAs, as determined through monitoring of the animal population, forage, water, riparian, and other ecosystem management objectives.

Adjustment Criteria

Remove wild horses and burros as expeditiously as possible from private lands, after a request has been made by the private landowner and reasonable efforts to keep the animal off private lands have failed.

Remove wild horses and burros which have expanded beyond HMA boundaries, only if reasonable efforts to keep the animals within those boundaries have failed.

Remove wild horses and burros in excess of an established AML in the HMAs.

Resource Constraints

Limit utilization by all herbivores on key perennial forage species at key areas within the HMAs in desert tortoise habitat to those utilization percentages identified by forage class and season of use as contained in the Nevada Rangeland Monitoring Handbook.

Authorize the construction of fencing only when that fencing will not constrain the wild, free-roaming characteristics of wild horses and burros.

LANDS MANAGEMENT

Objectives

Provide public land for urban or suburban expansion adjacent to the communities in the planning unit as needed.

Provide public land for use by Federal (other than BLM), State, and local government agencies and non-profit associations for public projects.

Limit the transfer of public land for agricultural production to only those areas (valleys) that have been determined to have development potential.

Locate and establish/designate right-of-way corridors where major rights-of-way currently exist.

Management Direction

In cooperation with State of Nevada and the Lincoln County Commissioners, determine those lands to be suitable for agricultural production (regardless of location) that should be disposed of through the appropriate means.

Consolidate all future communication site development, where feasible, on specific mountain peaks: Ella Mountain, East Mormon Mountains, Chokeycherry Mountain, Highland Peak, and Pahranaagat Range.

Utilize existing routes for major utility systems (69kV or higher powerlines, pipelines, etc.), whenever possible. It is recognized that engineering problems and project design will require that deviations be made to allow for the construction and maintenance of future facilities.

Coordinate with local and State governments in the planning unit to meet future needs for sanitary landfill sites by Lincoln County.

RECREATION MANAGEMENT

Objectives

Protect important botanic, zoologic, geologic, and paleontologic values to assure that they are not lost, destroyed, or substantially altered.

Provide adequate access to facilities for important sight-seeing and recreation use areas to assure their continued enjoyment by the public.

Provide OHV use areas and trails for both competitive and non-competitive use by individuals and organized groups.

Management Direction

Conduct speed-based OHV events within desert tortoise habitat under the mitigation measures and special stipulations contained within the 1995 USFWS programmatic biological opinion for OHV events (refer to Appendix D).

Establish the following competitive use OHV areas: 1) Tule Desert; 2) Lower Meadow Valley Wash; and 3) Delamar Valley.

Close Kane Springs Valley to competitive events and require OHVs to remain on existing roads and trails to protect the quail guzzlers.

Limit OHV competitive events in desert tortoise habitat to existing roads and trails.

Manage 51,360 acres as limited to existing roads and trails for all OHV use to protect desert tortoise habitat.

Limit competitive OHV events to existing roads and trails on 16,900 acres to protect gila monster habitat.

Provide facilities and/or protection necessary to ensure that OHV use is managed in such a manner as to avoid conflicts or damage to the unit's multiple use.

Utilize existing roads and vehicle trails for competitive events whenever possible.

Avoid and/or protect fragile soils through protective stipulation.

Prohibit competitive events within 1/4 mile of known water sources.

Prohibit pits or starting areas within 1/2 mile of known water sources and desert tortoise denning sites. All applications should be accompanied with a pit and spectator control plan.

Provide adequate interpretive, educational, and directional orientation for visitors.

Develop a self-guided OHV trail system, designed for individual, family, and small group use, providing both point-to-point and closed loop sight-seeing with overnight camping opportunities.

Place interpretive or directional signs as necessary or when money and personnel exist to assist the public in awareness about the resource values in the planning area.

Conduct intensive inventories in the East Mormon Barrel Cactus Area (T. 11 S, R. 69 and 70 E) to determine the nature and extent of the values. Upon completion of inventories, develop a Recreation Management Plan for the area. If values are found that are worthy of special protection, designate as a natural environmental area. Allow no wildlife vegetative manipulations in the area, pending review of values.

Conduct an intensive speleological investigation of the Mormon Caves, T. 11S, R. 67E. and develop a Recreation Management Plan to protect and utilize the resources identified.

Develop a Recreation/Cultural Resource Management Plan for the Mormon Mountains area.

WILDERNESS MANAGEMENT

Manage WSAs under the guidance of the IMP so that these lands retain their wilderness characteristics until congressional designation to the National Wilderness Preservation System or release from further consideration.

MINERALS MANAGEMENT**Locatable Minerals****Objective**

Encourage the search for and production of the locatable minerals in the planning unit. Consider mining to be the primary use of lands (especially around known mining districts) that are shown to contain valuable minerals in commercial quantities.

Management Direction

Assure that exploration, development, and extraction are carried out in such a way as to minimize environmental and other resource damage.

Assure the rehabilitation of lands affected by such operations.

Fluid Minerals**Objective**

Encourage and facilitate the search for leasable energy minerals (oil, gas and geothermal) within the unit. Cooperate with developers to aid and expedite exploration and development activities while at the same time protecting other resource values by reasonable stipulations.

Management Direction

All lands in the planning unit are open to oil and gas leasing, except Mormon Peak Caves, which are closed to leasing, (T. 11S, R. 67E, Sections. 17, 18, 19, 20 and T. 11S, R. 66E, Section 24 E1/2).

FIRE MANAGEMENT**Objective**

Provide for the maximum safety of the visitor, for the protection of personal property, and for the quality of the natural environment through development of a sound fire management and suppression program.

Management Direction

Develop a comprehensive fire management plan for the entire planning unit based on vegetative type, ecological relationships, the effect of different suppression techniques, and human use patterns.

Fire suppression within WSAs should be accomplished by using non-mechanized forms or other means so as not to impair any wilderness characteristics that may exist until designation or release from wilderness consideration.

TRANSPORTATION/PUBLIC ACCESS

Road maintenance is conducted based on the Caliente Resource Area Transportation Plan, in cooperation with the Lincoln County Road Department. Maintenance activities on existing roads in desert tortoise habitat will continue to be conducted during the tortoise inactive season (October 15-March 15). Section 7 consultation will continue to be conducted prior to any road construction and maintenance activities in desert tortoise habitat.

SPECIAL MANAGEMENT AREAS

No SMAs are designated in the MFP.

AGENCY PREFERRED ALTERNATIVE

In accordance with the National Environmental Policy Act, Federal agencies are required by the Council on Environmental Quality (40 Code of Federal Regulations 1502.14) to identify their preferred alternative for a project in the Final Environmental Impact Statement prepared for the project. The preferred alternative is not a final agency decision; it is rather an indication of the agency's preliminary preference. This alternative considered all the information that has been received, including comments on the DEIS, relevant to the proposed project. The agency preferred alternative is the Proposed Action as described in the environmental impact statement.

Rationale

- * The Proposed Action would best meet the purpose and need of desert tortoise recovery within a multiple use management context.

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Special Management Areas</u>	Designate three areas of desert tortoise habitat as ACECs for a total of 212,500 acres or 83% of the designated critical habitat within Lincoln County.	Same as Proposed Action	Identify two areas of desert tortoise habitat as DWMA's for a total of 307,000 acres or 52% of the designated critical habitat within Lincoln County.	No Special Management Areas would be designated.
<u>Wildlife (desert tortoise and other special status species)</u>	Manage desert tortoise habitat to assist the recovery and delisting of desert tortoise in the Northeast Recovery Unit. Maintain or improve habitat condition for desert tortoise and other special species.	Same as Proposed Action	<p>Authorize only those activities that would enhance the quality of desert tortoise habitat and other habitat.</p> <p>Establish barriers and underpasses for tortoise along heavily traveled roads and railroads.</p>	<p>Prepare HMP's for desert tortoise and Gila monster.</p> <p>Protect habitat of desert tortoise and other special species through mitigative stipulations developed through the environmental (NEPA) process for each individual action.</p>
	Designate Experimental Management zones as needed.	Same as Proposed Action	Designate up to 10% as Experimental Management Zones.	
	Participate in USFWS approved interagency monitoring.	Same as Proposed Action	Participate in USFWS approved interagency monitoring.	
	Participate in USFWS-developed environmental education program	Same as Proposed Action	Same as Proposed Action	Program not developed.

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Forestry and Vegetative Products Mgmt.</u>	Within ACECs, authorize no commercial desert vegetation harvests (seed or plant) except for salvage and research on case by case basis. Allow commercial sales outside of ACECs.	Same as Proposed Action	Manage vegetative products in desert tortoise habitat for education, scientific purposes, sale and sustained yield.	Study, manage or allow sale of desert vegetation within planning area. Proceed issuance of authorization for surface disturbance with either free use or sale of vegetative products.
<u>Special Status Plant Species</u>	Manage special status plant species to assure protection, maintenance and enhancement of habitat.	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
<u>Livestock Grazing Management</u>	Allotments or portions of allotments within Mormon Mesa, Kane Springs, and Beaver Dam Slope ACECs would be closed to grazing.	Grazing (cattle) allotments within the ACECs would be authorized if the following forage requirement was met: 288 lbs/acre of available tortoise forage. Sheep grazing (Beacon Allotment) within the Beaver Dam Slope ACEC would be closed.	Allotments or portions of allotments within the Mormon Mesa and Coyote Springs DWMA would be closed to grazing. Allotments or portions of allotments outside of the DWMA would be open to grazing with no seasonal utilization levels	Conduct livestock grazing in accordance with the terms and conditions of the Biological Opinion for BLM's Interim Rangewide Livestock Grazing Program in Mojave Desert Tortoise Critical Habitat. (USFWS 1994c).
	Allotments or portions of allotments outside of ACECs would be open to grazing with seasonal utilization limits.	Allotments or portions of allotments outside of ACECs would be open to grazing with seasonal utilization limits.		

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Wild Horse and Burro Management</u>	The Mormon Mountains HMA will no longer be managed for wild horses (0 AML), but will maintain its herd area status.	Same as Proposed Action	Same as Proposed Action except with the addition of Meadow Valley Mountains Herd Area.	Manage wild horse and burro populations in those areas where they existed at the passage of the WH&B Act of 1971 (PL-92-195)
	For HMAs within desert tortoise habitat but outside of ACECs wild horses would be managed with seasonal utilization limits.	Same as Proposed Action	Same as Proposed Action	

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Lands Management</u>	<p>Retain all public lands within ACECs, and critical desert tortoise habitat outside of ACECs, except in the case of Harrich Investments, LLC properties where federal legislatively leased lands may be exchanged for the legislatively conveyed properties now owned by Harrich Investments, LLC. Both the legislatively leased and conveyed lands are considered critical habitat. The intent of such an exchange would be to improve ACEC design.</p> <p>Allow disposal actions to occur within desert tortoise habitat outside of ACECs.</p> <p>Acquire private lands from willing sellers within ACECs and desert tortoise habitat.</p> <p>Allow land use authorizations outside of ACECs.</p>	Same as Proposed Action	<p>Retain all public lands and allow no disposal actions to occur within DWMAs.</p> <p>Acquire private lands from willing sellers within DWMAs.</p> <p>Allow no land use authorizations within DWMAs that would cause any surface disturbance.</p> <p>Allow no new landfills within DWMAs.</p>	<p>Provide public land for community expansion in the planning area as needed.</p> <p>Limit the transfer of public land for agriculture production to those areas that have been determined to have development potential.</p>

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Rights-of-Way Management</u>	Allow no new landfills within ACECs.			
	Retain the Nevada-Florida Land Exchange Harrich Investments, LLC (formerly Aerojet) legislatively designated corridor.	Same as Proposed Action	Do not authorize communication sites requiring new surface disturbance within DWMA's.	Locate and designate right-of-way corridors where major rights-of-way exist.
	Designate three utility/transportation corridors as described on Map 2-7.		Do not authorize any activities associated with the transfer of oil and gas that would cause surface disturbance within DWMA's.	Consolidate all future communication site rights-of-way, where feasible, on specific mountain peaks.
	Areas outside of corridors within ACECs would be considered rights-of-way avoidance areas.		Do not designate transmission and utility corridors within DWMA's.	
	Requests for new material site rights-of-way within ACECs, pursuant to the Federal Aid Highway Act, will be considered within a one-mile wide corridor along designated federal roads (Map 2-9).			
	Material site rights-of-way outside of ACECs would be considered on a case-by-case basis.			

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Recreation</u> <u>Management</u>	OHV use in ACECs limited to designated roads & vehicle trails.	OHV use in ACECs limited to existing roads & vehicle trails.	OHV use within DWMA's limited to designated roads and limited speed.	OHV designations are mostly "open" with variations of "limited" in select areas.
	ACECs closed to speed competitive OHV events. Non-speed competitive and non-competitive OHV events (or non-speed portions of speed events) may pass through ACECs on designated roads from October 16 - March 14 and June 16 - August 14.	Speed competitive OHV events allowed to pass through ACECs on designated roads during tortoise inactive season (October 15 to March 15). Non-speed and non-competitive OHV events allowed to pass through without seasonal restriction.	DWMA's closed to all competitive or organized events. Parking and camping within DWMA's restricted to designated sites	OHV events conducted in accordance with Biological Opinion for Las Vegas District Off-Road Events. Kane Springs Valley closed to competitive OHV events.
	OHV casual use and events, limited to existing roads and vehicle trails in desert tortoise habitat outside of ACECs.	OHV designation outside of ACECs would remain open.	No restriction of recreational use in desert tortoise habitat outside of DWMA's. All types of organized OHV events could be conducted through tortoise habitat outside DWMA's, most likely through Toiyah Wash. Halfway Wash would be open north of the Clark - Lincoln County line.	

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Minerals Management</u>	<p>Kane Springs ACEC would be closed to fluid and non energy mineral leasables and operation under the General Mining Law, subject to valid existing rights.</p> <p>Closed to mineral materials disposal except one-mile wide corridors on designated federal and county roads.</p> <p>Mormon Mesa and Beaver Dam Slope ACECs will remain open to mineral entry with the following restrictions:</p> <p>1. Under the General Mining Law of 1872 will be subject to Plans of Operation.</p>	<p>ACECs remain open to the Mining Law of 1872 subject to Plans of Operations.</p> <p>Desert tortoise habitat outside of ACECs remains open to notices of operation for locatable minerals. Standard operating procedures and Endangered Species Act provisions would apply.</p> <p>No surface use allowed in the planning unit for fluid minerals from March 15 October 15.</p> <p>Access to leasehold by existing roads and trails, unless otherwise authorized.</p> <p>ACECs closed to mineral material disposal except in designated one-mile wide corridor on designated federal and county roads. Desert tortoise habitat outside ACECs remains open to mineral material disposal.</p> <p>Planning unit remains open to non-energy mineral leasing with the same lease stipulation as oil and gas.</p>	<p>DWMAs withdrawn from mineral entry, closed to fluid and non-energy mineral leasing, and operations of the General Mining Law, subject to valid existing rights. Closed to mineral material disposal.</p> <p>Desert tortoise habitat outside of DWMAs remains open to mineral entry, fluid and non-energy mineral leasing, and operations of the General Mining Law, and mineral material disposal.</p>	<p>All lands within the planning unit remain open to mineral entry, to fluid and non-energy mineral leasing (except Mormon Caves), to operations of the General Mining Law, and to mineral material disposal.</p>

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Minerals</u> <u>Management</u> <u>(continued)</u>	<p>2. Mineral Leasing</p> <p>Stipulations:</p> <p>a) No surface use allowed in the ACECs for fluid and non-energy leasible minerals from March 15 to October 15.</p> <p>b) Access to leasehold by existing roads and trails, unless otherwise authorized.</p> <p>3. Closed to mineral material disposal except in designated one-mile wide corridor on designated federal and county roads.</p>			

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Minerals Management (continued)</u>	<p>Outside ACECs</p> <p>1. Desert tortoise habitat outside of ACECs remains open to notices for locatable minerals. Standard Operating Procedures and Endangered Species Act provisions would apply.</p> <p>2. Mineral Leasing Stipulations:</p> <p>a) No surface use allowed in the ACECs for fluid and non-energy leasible minerals from March 15 October 15.</p> <p>b) Access to leasehold by existing roads and trails, unless otherwise authorized.</p> <p>3. Desert tortoise habitat outside ACECs remains open to mineral material disposal.</p>			

Table 2-7. Summary of Alternatives

PROGRAM	PROPOSED ACTION	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
<u>Fire Management</u>	Full suppression activities with minimum surface disturbance would be used throughout the planning unit. Some suppression restrictions apply.	Same as Proposed Action	Same as Proposed Action	Full suppression activities with minimum surface disturbance would be used throughout the planning unit.

Table 2-7. Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
DESERT TORTOISE				
Total Desert Tortoise Habitat Protected in Special Management Areas	212,500 acres (28% of desert tortoise habitat in the EIS planning area).	Same as Proposed Action	307,000 acres (41% of desert tortoise habitat in the EIS planning area).	0
Designated Critical Desert Tortoise Habitat Protected in Special Management Areas	203,700 acres (83% of the Designated Critical Desert Tortoise Habitat in the EIS planning area).	Same as Proposed Action	126,700 acres (52% of the Designated Critical Desert Tortoise Habitat in the EIS planning area).	0
Management Prescriptions for Tortoise Habitat Outside of Special Management Areas	542,100 acres subject to Section 7 consultation plus additional proposed management.	Same as Proposed Action	447,600 acres subject to Section 7 consultation with no additional proposed management.	754,600 acres subject to Section 7 consultation .
Tortoise Population Trends Within Special Management Areas	Encourage upward trend to attain long-term stability and viability goals, avoid long-term downward trends.	Maintain in the short term.	Encourage upward trend to attain long-term stability and viability goals, avoid long-term downward trends.	Currently stable trend at Coyote Springs and Sand Hollow study plots. Probable decline in trend in the future.
Ecological Status of Tortoise Habitat	Maintain or improve within ACECs. Maintain outside ACECs.	Maintain inside and outside ACECs.	Maintain or improve within DWMA's. Decrease outside of DWMA's.	Maintain
LIVESTOCK				
Number of AUMs reduced	2095 (Sheep) 3563 (Cattle)	2095 (Sheep) 0 (Cattle)	0 (Sheep) 3688 (Cattle)	0

Table 2-7. Summary of Impacts

PROGRAM	PROPOSED ACTION	HABITAT MANAGEMENT ALTERNATIVE (ALT A)	DWMA ALTERNATIVE (ALT B)	NO ACTION ALTERNATIVE (ALT C)
Number of allotments closed	1 (Sheep) 2 (Cattle)	1 (Sheep) 0 (Cattle)	0 (Sheep) 2 (Cattle)	0
Number of allotments partially closed	0 (Sheep) 6 (Cattle)	0 (Sheep) 0 (Cattle)	0 (Sheep) 7 (Cattle)	0
Current livestock use acres closed to grazing	47,900	5,600	92,300	None
Current livestock non-use acres closed to grazing	164,600	0	214,700	None
WILD HORSES				
Appropriate Management Level (AML) for wild horses	0 for Mormon Mountains Herd Area; AML for Meadow Valley Mountains and Blue Nose Peak HMAs to be established through allotment evaluation process.	Same as Proposed Action	0 for Mormon Mountains and Meadow Valley Mountains Herd Areas; AML for Blue Nose Peak HMA to be established through allotment evaluation process.	AML for all three HMAs to be established through allotment evaluation process.
Number of Horses Removed	15 from Mormon Mountains Herd Area; 20 from outside of Mormon Mountains Herd Area.	Same as Proposed Action	15 from Mormon Mountains Herd Area; 40 from Meadow Valley Mountains Herd Area; 20 from outside of Herd Area boundaries.	20 from outside of HMA boundaries.

CHAPTER 3

AFFECTED ENVIRONMENT

INTRODUCTION

This chapter describes the environmental and resource management components of the planning area that are relevant to an analysis of the Proposed Action or alternatives. These include soils and water resources, special status species, livestock grazing allotments, wild horse and burro HMA's, lands actions, recreation, WSAs, minerals management, fire management, and socio-economic conditions. Much of the data contained within this chapter is drawn from the more detailed *Caliente Resource Area Unit Resource Analysis Step 3*) (BLM 1978) and the *Final Environmental Impact Statement on Domestic Livestock Grazing Management Program for the Caliente Resource Area* (BLM 1979a), available for public review at the BLM Caliente Field Station, located in Caliente, Nevada.

PHYSICAL DESCRIPTION OF THE PLANNING AREA

GENERAL SETTING

The planning area is defined as desert tortoise habitat on public lands administered by BLM in southeastern Lincoln County. This habitat occurs at elevations below 4,000 feet, at the northern extreme of the vast Mojave Desert, and totals approximately 754,600 acres. Southeastern Lincoln County is generally undeveloped and sparsely populated; the unincorporated town of Alamo (population 926 from the 1990 census) is the only population center within the planning area. Major highway access is provided by U.S. Highway 93 which runs north-south along the west side of the planning area and by Interstate I-15 which traverses Clark County near the southeast margin of the planning area. The Union Pacific Railroad main line, State Route 317, and the unpaved Kane Springs and Carp-Elgin roads comprise travel corridors through the planning area.

CLIMATE

The planning area is located within the Mojave Desert, the smallest and most arid of the American deserts (MacMahon 1985). The region is characterized by low precipitation and high summer temperatures. Three major air masses influence the climate of the area: the tropical Atlantic (Gulf); the tropical Pacific, and the polar Pacific (BLM 1991). These air masses create a bi-seasonal climatic pattern, characteristic of much of the American Southwest. Most of the annual precipitation is received during two peak storm periods: winter (November to February) and summer (July to September). Winter rains can begin in October and continue through March, supplying the Mojave Desert with between 60 and 80 percent of its total annual rainfall (Reitan and Green 1968; Huning 1978). Summer rains are often very localized, intense, and of short duration. The eastern Mojave Desert receives more of its annual rainfall from these storms than does the western portion (Bailey 1981). The driest months are April through June and September. Precipitation readings taken at seven locations within the planning area indicate that regional annual precipitation amounts can be highly variable, ranging from less than 2 inches to more than 13 inches, with an average of approximately 5 inches (data on file, BLM-Caliente Field Station 1996).

Plant growth and reproduction in the eastern Mojave Desert are triggered by precipitation events of greater than one inch (Beatley 1974). The most predictable of these events generally occurs between late September and early December; these are the precursors of successful plant growth and reproduction during the following spring (Berry 1984a). Good annual vegetation growth occurs when both the winter and spring precipitation exceeds

125 percent of average or when winter moisture is near average and spring exceeds 140 percent (BLM, p. 30, 1996a). Poor growth years occur when both winter and spring moisture is less than 75 percent.

In this region, winters are mild, with daytime temperatures reaching an average maximum of 60 degrees F and nighttime temperatures averaging 35 to 45 degrees F. Summers are hot, with daytime maximum temperatures averaging 85 to 95 degrees F and nighttime temperature minimums ranging from 70 to 75 degrees F.

PHYSIOGRAPHY

The topography and drainage of southeastern Lincoln County are characteristic of the Basin and Range province, with internally draining basins separated by mountain ranges, hills, and mesas. The trend of the ranges is not always uniform, but a general north-south orientation is apparent. A notable exception is the Clover Mountains, located at the northern edge of the planning area. The orientation of this range is generally east-west, the result of extensional forces. The Grand Wash Cliffs, located a few miles to the south of Mesquite, Nevada, mark the boundary between the Basin and Range province and the Colorado Plateau province. The southeastern portion of Lincoln County lies within the Colorado River Basin and is externally drained by the Colorado River and its tributaries.

GEOLOGY

Southeastern Nevada has a complex geologic history, comprised of several episodes of sedimentation, igneous activity, orogenic deformation, and continental rifting. These past events have influenced the location and potential for economic mineral values in the planning area and can be summarized as follows.

In the early Paleozoic Era, the region was a marginal coastal zone, with deposition of sediments occurring in a geosynclinal environment. A carbonate belt was deposited, with detrital coastal deposits to the east and deep ocean sediments to the west. The rock types consist of shales and limestones. This depositional environment continued until the Devonian Period. During the Middle Paleozoic, approximately 100 million years ago, the region experienced its first compressional event. A subduction zone was established to the west and a volcanic island arc developed. A foreland basin was created when mountainous terrain uplifted in the ocean, away from the coast line. Sediments were deposited into the basin from the adjacent land forms. Typically, clastic sediments (sand and silt) were intermixed with limestone deposits. During the Antler Orogeny, the Roberts Mountain thrust developed; coastal sediments and crust were compressed by at least 100 kilometers. With the accretion of the Sonoma landmass, a subduction zone was established in western Nevada. This subduction marks the beginning of the modern circum-Pacific orogenic system, as the Pacific Ocean sea floor's Kula Plate was subducted under the North American continental crust. North America changed its direction of motion relative to the western ocean sea floor plate by rotating clockwise. A thermal bulge, relating to volcanism, occurred along the Sonoma suture zone. Sediments were transported to the northeast. The volcanism ended in the Late Triassic; the highlands at the southern end of Nevada subsided and were again below sea level.

At the onset of the Jurassic, events to the east set the stage for the modern geologic landscape. The Atlantic sea floor spreading center was developed and subduction to the west intensified, as a consequence of the breakup of the supercontinent Pangea. During the early stages of the break up, sediments were deposited in the interior regions of North America, including the Great Basin and Colorado Plateau. The western subduction zone experienced uplift in the Rocky Mountains, known as the Cordilleran Orogeny. Several major thrust belts are associated with this subduction zone, including the Sevier belt in Nevada. Crustal shortening was estimated to be 100 kilometers. Volcanic activity associated with subduction began between the Sierra Nevada Range and the Rocky Mountains.

From the middle Cenozoic Era to the present, extensional forces developed within the Basin and Range province. The high angle fault-controlled mountain ranges and intervening valleys are the result of regional extension. Volcanic activity increased with the extensional forces and accompanying thinning of the continental crust. Valley fill within the region contains the erosional remnants of the mountain blocks.

SOILS

Fan piedmont remnants are the major landform in the planning area. Soils have formed primarily in alluvial deposits and occupy positions on alluvial fans and terraces. Small areas of similar soils are found along narrow valley drains and as islands of residual soils on hills and mountains. Approximately 70 percent of the soils occur on alluvial fans, fan remnants, and terraces. These soils have developed in alluvial material, eroded from adjacent uplands. Soil development is slow due to the arid conditions. Such soils are very shallow to shallow over a hardpan. This hardpan, which generally has a high lime content, acts as a restrictive layer in the soil profile. A high percentage of rock fragments are found on the surface and throughout the profile; this rock cover aids in reducing susceptibility to soil erosion. Surface soil textures are primarily sandy loams. Slopes range from gently to strongly sloping.

Soils found along narrow valley drains, such as the Meadow Valley Wash and Kane Springs, are deep and the most productive in the planning area. These soils have developed in alluvium and typically have loam and sandy loam surfaces. Slopes are level to gently sloping.

Islands of residual soils occur within desert tortoise habitat on hills and low mountains, such as the Mormon Mountains. These soils are very shallow to shallow in depth and have developed primarily in sedimentary rocks. They exhibit a high percentage of rock fragments, including cobbles and stones on the surface and within the profiles of these soils. Slopes range from strongly sloping to very steep.

Water erosion potentials within the planning area vary from slight to severe. A majority of the soils are in the slight category. The slight erosion potentials result from the low percentage slopes present and the high percentage of rock fragments found on the soil surfaces. Soil salinities are very slightly saline. Approximately 1,500 acres of strongly saline soils are found along lower Meadow Valley Wash.

WATER AND RIPARIAN RESOURCES

Eighteen springs with associated riparian areas are found in the planning area. These springs provide a very important source of water for the area. Table 3-1 lists the locations and discharge amounts for each spring source. A majority of these springs have ponded or standing water (lentic) riparian habitat associated with them. Riparian habitat areas are smaller than their potential areal size and are, to varying degrees, degraded below proper functioning condition. The degradation has resulted from overuse by grazing animals and the development of man-made facilities that removed the water supply from the riparian habitat. Water quality data has not been collected on the springs sources in desert tortoise habitat since the early 1980s.

The Meadow Valley Wash traverses the planning area from north to south and is the only perennial stream, greater than one-half mile in length, within desert tortoise habitat. This stream is characterized by peak flows in February and March, when peak snow melt occurs. Mean annual flow, measured at the Rox-Tule gaging station, is recorded at 3.39 cubic feet per second. The Meadow Valley Wash has riparian habitat with lotic or moving water. The size and condition varies by location; this habitat has been grazed by domestic livestock since the mid-19th century.

Table 3-1. Spring sources in desert tortoise habitat.

SPRING SOURCE	TOWNSHIP	RANGE	SECTION	DISCHARGE (in cubic feet per second)
Grapevine Spring	9S	65E	27	0.1
Snow Spring	9S	70E	02	0.2
Jones Spring	9S	70E	10	NA
Willow Spring	10S	69E	09	0.1
Unnamed Spring	10S	69E	16	NA
Hackberry Spring	10S	69E	23	0.1
Old Well Spring	10S	69E	10	0.1
Summit Spring	10S	69E	10	0.0
Badger Spring	10S	69E	22	0.1
Tule Spring	10S	69E	09	0.5
Abe Spring	10S	69E	09	0.2
Unnamed Seep	10S	69E	10	1.0
Gourd Spring	10S	69E	29	0.3
N. Spring	11S	69E	29	0.3
S. Peach Spring	11S	69E	29	0.0
Unnamed Spring	12S	69E	32	0.1
Unnamed Spring	12S	65E	36	NA
Mine Spring	12S	69E	04	1.6
(SOURCE: BLM, Caliente Field Station data.)				

VEGETATION COMMUNITIES

All of the vegetation communities within the planning area are located within the Mojave Desert biome and can be characterized as follows.

Southern Desert Shrub - The southern desert shrubs occur between 1,500 and 5,000 feet in elevation, where between 5 and 12 inches of precipitation can fall during the year. Vegetative types representing the southern desert shrub community are creosote (*Larrea tridentata*), shadscale (*Atriplex confertifolia*), Joshua tree (*Yucca brevifolia*), and bursage (*Ambrosia* spp.). Other desert shrubs within this type include spiny hopsage (*Grayia spinosa*), Anderson thornbush (*Lycium andersonii*), and Fremont dalea (*Dalea fremontii*). All of these types are found in valley bottoms (BLM 1979b).

Big galleta (*Hilaria rigida*), sand dropseed (*Sporobolus cryptandus*), and Indian ricegrass (*Oryzopsis hymenoides*) comprise an average of 4 percent of the species composition of this community. Winterfat (*Ceratoides lanata*), Mormon tea (*Ephedra nevadensis*), and four-wing salt-bush (*Atriplex canescens*) constitute approximately 14 percent of the species composition. Annual grass and forb production is dependent on the amount and timing of precipitation and can range from zero to as high as 4,000 pounds per acre (BLM, pg. 33, 1996).

Northern Desert Shrub - This community, sometimes known as the blackbrush formation, is characterized by a scattered growth of deciduous shrubs. The plants are woody, often very uniform in size, and, in denser stands almost cover the ground. In more typical areas, plants stand far apart and, except during the growth of annuals, the soil surface is visible. Representatives of this community are rabbitbrush (*Chrysothamnus spp.*), yuccas, (*Yucca spp.*), blackbrush (*Coleogyne ramosissima*), bursage, and snakeweed (*Gutierrezia spp.*). Blackbrush forms a broad, overlapping belt between northern and southern desert areas. Soils under blackbrush are usually free from harmful amounts of alkali. Large areas of blackbrush have been burned off and replaced by the mid-grass type three awn (*Aristida spp.*) in the Tule Desert. Snakeweed may occur on disturbed areas throughout the northern desert shrub area. Perennial grasses, including big galleta, Indian ricegrass, sand dropseed, and three awn, can comprise approximately 9 percent of the northern desert shrub community. More than 80 percent of the plants are blackbrush, Mormon tea, or bursage. Annual grasses and forbs can increase production to a few hundred pounds per acre during periods of above normal precipitation; in dry years, such production is negligible.

Annual grassland - This plant association, occurring between 2,500 and 6,000 feet in elevation, is the result of recurrent wildfires that have removed native shrubs and yuccas, such as the Joshua tree. Perennial grasses, like Indian ricegrass, three awn, and big galleta, make up about 7 percent of the species composition, while browse species, such as Mormon tea and winterfat, comprise about 6 percent. Exotic grasses, such as red brome (*Bromus rubens*) and Indian wheat (*Plantago insularis*), and other native annuals, typify the remainder of the community. Annual production may range from between 2,000 and 4,000 pounds per acre during wet years to negligible production during dry periods.

Red brome cures while standing. Unlike native species, this grass provides a continuous fuel source to carry wildfire. Most native desert plants are not well adapted to fire and are quickly killed by moderate or high intensity fires. Native shrubs require long time intervals for growth and may not have sufficient time to re-establish under the current wildfire cycle.

ECOLOGICAL STATUS

A limited Ecological Site Inventory (ESI) was conducted during April of 1997 in designated critical habitat for desert tortoise within the planning area. The purpose of ESI is to determine ecological status within a site, with respect to its vegetative values and/or potential. Ecological status or range condition is the current state of vegetation and soil at an ecological site, in relation to the potential natural community (PNC) for that site (measured in terms of species composition by air dry weight). Data from ESI inventories provide important baseline information for the establishment of management objectives and monitoring the attainment of those objectives as conditions change. The quality or condition of desert tortoise habitat can also be determined through an evaluation of ecological status when specific native herbaceous species production is considered relative to its potential.

ESI data were collected using the following methodology. Transects were located within Site Write Up Areas (SWA), the smallest delineated geographical unit used as a base for collecting vegetation data. Soils considered well suited for desert tortoise burrowing, as identified in the Draft Suitability for Burrowing Habitat by Desert Tortoise (NRCS 1997), and correlated with creosotebush or creosotebush-white bursage communities, were selected as the locations of the SWAs. In Lincoln County, 81 percent of tortoise sign was found where the creosote-bursage community was dominant. Karl (1981) also observed that tortoise density appeared to be positively correlated with creosote. At each transect, percent composition by weight of vegetation, ecological status, and total production was determined, using the double-sample weight estimate method described in the

National Range Handbook (SCS 1976) and the BLM Supplement to the Handbook (H-4410-1). Composition by weight, ecological status, and total production are related to Range Condition Class or Seral Stage. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the PNC (climax). The four classes are outlined in Table 3-2.

Table 3-2. Range Condition Classes (Seral Stage).

Seral Stage or Ecological Status	Percentage of Present Plant Community that is Climax of the Range Site
Potential Natural Community (climax)	76-100
Late Seral	51-75
Mid Seral	26-50
Early Seral	0-25

Nine ESI Transects were conducted in three range sites dominated by creosote-white bursage and big galleta grass (Map 3-1). Two of the nine transects (DT-1 and DT-4) were located within the Sand Hollow and Coyote Springs permanent desert tortoise study plots. (See Appendix F for a complete description of the range sites.) Three transects were in a community rated to be in early seral stage, five transects were in mid seral stage, and one transect was located in a community at PNC. Eight of the transects were rated at a lower seral stage due to the high percent composition of red brome and the absence of desirable vegetation; earlier seral stages are considered lower quality tortoise habitat due to those factors.

Seral stages and site potentials are based on the range site (ecological site) description, as defined by the PNC. Site potential of the inventoried areas was lowered by the invasion of non-native plants, especially red brome, cutleaf filaree, tumble mustard, Russian thistle, and Mediterranean grass. These non-native species thrive in many open deserts that have been or are grazed by livestock and/or disturbed by human activities. Non-native species, which are not adapted to germinate in thickly crusted desert soils, gain entry when these crusts are broken. As non-native plant species become established, some native perennial and annual plant species decrease or die out (D'Antonio and Vitousek 1992). For example, under pressure from livestock grazing, many native perennial bunch grasses have been replaced by red brome (Robbins et al. 1951). Native populations in disturbed habitats have been in a weakened condition for decades, and are more vulnerable to competition than at any other time in the historic past (USFWS 1994a). Recent drought conditions have placed additional pressures on native plants.

The potential and frequency of wildland fires also increase as non-native species become established. Red brome is now very abundant in the planning area. In years of average to above average winter rainfall, red brome produces a high amount of biomass, fueling fires that can threaten the very structure of the desert as a shrubland. These hot fires damage native shrubs and can destroy cover which protects tortoises from predators and thermal exposure. Ironically, in years when high rainfall produces greater amounts of food for desert tortoise, fires often destroy suitable desert tortoise habitat. Burned areas are left more susceptible to the invasion of non-native plant species and the increased potential for reburning (USFWS 1994a).

Livestock grazing and other human activities have altered the native vegetation communities in many areas. Moisture conditions and the presence of exotic annuals appear to control the rates at which ecological succession

can occur. Oldemeyer suggests that "ecological condition may never improve as long as exotic annuals are a permanent component of the flora". Increases in perennial-grass cover have been noted in areas protected from livestock grazing. (Oldemeyer, pg. 98, 1994) Improvements are projected to be very slow in desert environments, even after changes in livestock grazing management or reductions in livestock numbers. Some ecological sites will recover in the long term; others may never reach ecological site potential. The reader should note, however, that a late to PNC seral stage lacking native herbaceous component may not adequately reflect the condition important for desert tortoise survival, reproduction, and recovery. Refer to the upcoming discussion on desert tortoise nutritional and habitat requirements.

SPECIAL STATUS ANIMAL SPECIES

The planning area provides habitat for special status species, including threatened or endangered species, as well as sensitive and state-listed species. It is BLM policy to manage the habitats of all special status species to prevent future listing of species and to ensure the recovery of listed species.

Threatened or Endangered Species

The Meadow Valley Wash and the Pahrnatag Valley provided nesting habitat for the Southwestern Willow Flycatcher, a federally-listed endangered species. The White River Springfish (*Crenichthys baileyi bailey*) and the Pahrnatag roundtail chub (*Gila robusta jordani*) can also be found in the Pahrnatag Valley. The potential also exists for the peregrine falcon (*Falco peregrinus*), also a federally-listed endangered species, to visit the planning area, as a seasonal migrant.

The desert tortoise is a threatened species in the planning area. The USFWS first placed the desert tortoise on the Endangered Species List on August 4, 1989, under the emergency authority of the ESA. On April 2, 1990, the USFWS issued a final rule listing the desert tortoise as a threatened species. The ESA mandates that all federal agencies must not authorize, fund or conduct any activity, including habitat destruction or adverse habitat modification, that could threaten the continued existence of a listed species. Approximately 754,600 acres of desert tortoise habitat occurs on BLM-administered public lands in Lincoln County (see Map 1-3).

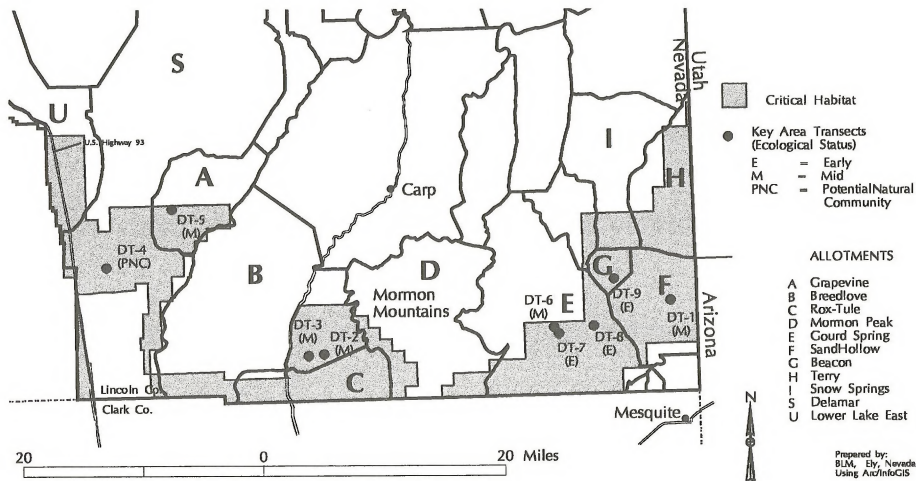
Desert Tortoise Life History

The desert tortoise is the only naturally occurring tortoise in the Mojave Desert and is considered "an indicator species to measure the health and well-being of the ecosystem it inhabits" (Berry and Medica, pg. 135, 1995). The species is well adapted to living in a highly variable and often harsh environment. Desert tortoises spend the majority of their lives underground, in winter dens and summer burrows, where they are protected from the temperature extremes of the Mojave Desert. These underground shelters are susceptible to surface-disturbing activities that can collapse the entrances, trapping and suffocating the occupants. Individuals generally remain in winter dens between October and mid-March, emerging to feed and mate during late winter and early spring. They typically remain active through the spring. Tortoises use the summer burrows and shrub cover to escape the intense Mojave Desert heat. During the summer months, activity periods occur at sunrise and sunset, when the animals leave their burrows to feed.

Desert tortoises also retreat to burrows or dens in order to lower their metabolic rates and minimize water loss during adverse conditions. Adult tortoises lose water so slowly that they can survive for more than a year without access to "free" (not derived from plants) water of any kind. While in burrows, individuals consume very little food. Desert tortoises apparently can tolerate large water and energy imbalances. This ability enables them to survive lean years and exploit resources that are only periodically available. During years of average or better than average precipitation and forage production, desert tortoises can balance their water budgets and have

Key Area Transects Within Critical Habitat

Map 3-1



a positive energy balance, affording an opportunity for growth and reproduction. All of the mechanisms by which desert tortoise maintain their energy and water balances during periods of fluctuating resource availability are still not completely understood (USFWS 1994a)

Long-lived, with a slow maturation rate, desert tortoises have low reproductive rates. Eggs and hatchlings are especially vulnerable; pre-reproductive adult mortality averages 98 percent (USFWS 1994a). Adults, however, are well protected against predators (other than humans) and other environmental hazards. Longevity helps the desert tortoise compensate for its variable annual reproductive success, which is correlated with environmental conditions. For more detailed information on desert tortoise life history, refer to Woodbury and Hardy (1948), Hohman and Ohmart (1979); Berry (1984b); Nagy and Medica (1986); Esque (1994); and Berry and Medica (1995).

Desert Tortoise Nutritional Requirements

Desert tortoises are vegetarians, consuming grasses, flowers, and succulent plants (Grover and DeFalco 1995). Food habits vary considerably among populations, based on the different vegetative composition of their habitats (Burge and Bradley 1976). In southern Nevada, recent studies have shown that tortoise depend primarily on forbs such as *Camissonia munzii* and moth langloisia (*Langloisia setosissima*) and small amounts of grass during the spring (Nagy and Medica 1986). After the forbs have dried up in mid-June, tortoises consume only dry grasses, such as red brome and Indian ricegrass. In August, dry langlosia is also an important food. In late September, *Camissonia*, red brome, and Indian ricegrass respond to summer rains by producing new green growth. Desert tortoises select these as food in October (Nagy and Medica, 1986).

Earlier research conducted on the Beaver Dam Slope in Utah indicated that desert tortoise consumed cutleaf filaree (*Erodium cicutarium*), red brome, and bush muhly (*Muhlenbergia porteri*) throughout the year (Coombs 1977). Island Indianwheat, shaggyfruit pepperweed (*Lepidium lasiocarpum*), beavertail pricklypear (*Opuntia basilaris*), blackbrush, *Cryptantha* spp., and *Eriophyllum* spp. were consumed by tortoises in the spring and summer. Tortoise also selected *Tridens* spp. in the fall and Indian ricegrass and galleta in fall and winter (Coombs 1977). For a more complete list of forage items consumed by desert tortoise, see Appendix G.

The desert tortoise requires very little forage, surviving on approximately 23 pounds of vegetation per year. Larger grazing animals, such as domestic livestock, utilize substantially more forage. For example, a cow with a calf needs 10,000 pounds per year, consuming more in one day than a tortoise does all year (Holing 1986). In good precipitation years, vegetative production in the Mojave Desert, particularly annuals, can exceed 500 pounds per acre. During these good production years, it would appear that enough forage would be available for both the desert tortoise and livestock. Recent research has shown, however, that despite the periodic availability of abundant forage, the quality of this forage may not meet the tortoise's nutrient needs (Ofidal and Allen 1996). Forage quality is probably of greater importance than forage quantity. The quality and abundance of curing or senescent forage may be a critical determinant in tortoise nutrition (Oldemeyer 1994). Few forage species supply a good balance of nutrients; therefore, intake of a variety of forage items is important (Mayhew 1968).

Spring is a critical time for tortoises to replenish fat reserves used during hibernation. Native forbs are particularly important for tortoises in the spring, since essential nutrients can be more easily obtained from them (Fowler 1976; Hohman and Ohmart 1980; Urness and McCulloch 1973). Perennial grasses may be important as a late summer source of water and nutrients. Without the perennial grasses, tortoises may become dehydrated in summer, resulting in a buildup of electrolytes, especially potassium ions (Coombs 1977; Woodbury and Hardy 1948). During years with a poor crop of spring annuals, perennials may be the main source for meeting these demands. In some areas, perennial grasses have been replaced by exotic species (Jarchow and May 1989).

Competition between exotic and native annuals may have lowered the nutritional content of the native species. Jarchow and May (1989) have suggested that this may be a likely cause of malnutrition in the desert tortoise.

Recent studies have shown that nitrogen and potassium are two important nutrients in desert tortoise physiology (Ofidal et al. 1994; Nagy and Medica, 1986; Christopher et al. 1996). Nitrogen is important to the desert tortoise for food and reproduction. Potassium is a salt that the tortoise must excrete. Natural diets are high in potassium and low in nitrogen (Coombs 1977; Minnich 1979). When consuming plants with high potassium concentrations, desert tortoises must excrete excess potassium, in order to maintain electrolyte balance and avoid the potentially toxic effects of hyperkalemia (Nagy and Medica, 1986). Desert tortoises, unlike chuckwalla and desert iguanas, cannot excrete excess salts, and must rely on urate excretion to dispose of them (Nagy 1972). Urate excretion results in a substantial loss of nitrogen since uric acid is nearly one-third nitrogen (Ofidal et al. 1994; Christopher et al. 1996).

By diverting nitrogen critical for growth and reproductive functions to remove excess potassium, the tortoise pays a high metabolic price to consume potassium rich plants (Ofidal et al. 1994). When captive tortoise were experimentally fed diets high in nitrogen and low in potassium, they grew very rapidly, reaching adult size in five years or less (Ofidal and Allen 1996). Ofidal and Allen (1996) concluded that desert tortoises: (1) avoid high-potassium foods when possible; (2) reduce food intake when they must eat high-potassium foods; (3) use nitrogen to excrete urate salts when they eat high-potassium foods; and (4) have reduced growth rates when they eat high-potassium foods. The adverse effects of potassium are likely to be exacerbated by water shortages and when foods are low in nitrogen. Ofidal and Allen (1996) predicted that the foraging choices made by tortoises in the desert reflect the need to avoid potassium, while maintaining water and nitrogen intakes.

Dietary potassium can have a major effect on the amount of nitrogen that tortoises can use for growth and reproduction (Ofidal et al. 1994). To determine the relative value of plants as tortoise food, Ofidal and Allen (1996) developed an index. The Potassium Excretion Potential (PEP) index accounts for the ability of tortoises to use dietary water and nitrogen to offset the potassium loads in particular foods. A negative value implies that there is insufficient water and nitrogen in the food to excrete potassium. High positive values indicate that tortoises should be able to use excess nitrogen for growth, egg production, or other functions, or use excess water for replenishment of body stores. Highly-favored food plants, such as *Plantago* flower heads, filaree, legumes (*Astragalus*, *Lotus*, *Lupinus*), and globe mallow in spring, have high PEP indices, as do immature grasses and cacti. The abundance of high PEP plants may be a critical feature of tortoise habitat. In the eastern Mojave (including southern Nevada), tortoises have access to cacti and perennial grasses during drought years and after winter annuals and herbaceous perennials dry up in May and June.

Most grasses develop negative PEP indices as early as May. Data on perennial grasses suggest that dried grasses achieve positive PEP indices after winter rains have leached out much of the residual potassium. This would indicate that perennial grasses could be an important food source the following year. Bush muhly is a remarkable exception in that, unlike other perennial grasses, it continues to have a positive PEP in summer and fall. Woodbury and Hardy (1948) concluded that bush muhly was "the chief source of food" for tortoises on the Beaver Dam Slope, supporting Coomb's (1979) assertion that the reduction in bush muhly associated with livestock grazing may have adversely affected tortoises.

Desert Tortoise Habitat Requirements

Soil physical properties, landforms, and vegetative community characteristics combine to create habitat that is suitable for desert tortoises. Since the desert tortoise spends 98 percent of its life underground, soil properties must be suitable for digging burrows to an average depth of 20 inches. Rock content, soil texture, pH, and depth to a restrictive layer (hardpan) are all physical characteristics of soil that would contribute to its suitability for

tortoise burrowing (Wilson and Stager 1989). Soil temperature is also an important consideration, since a soil that is either too hot or too cold on an average annual basis would not help the tortoise to regulate body temperature.

Landforms create micro-environments that have varying degrees of suitability as habitat for desert tortoise. Dissected landforms, cut by drainages, create more diverse micro-environmental areas. Slope and aspect of the landforms also effect the quality of the habitat, with south-facing slopes being hotter and drier than those that are north-facing.

The most productive Mojave Desert tortoise habitat is characterized by the creosote bush-bursage community. This community occurs on open flats, gently sloping terrain, alluvial fans, along washes, and in canyons (Grover and DeFalco, 1995; Burge 1979). The soils which support the creosote-bursage community are generally suitable for tortoise burrow and den construction. In the eastern Mojave Desert, productive tortoise habitat is typified by desert pavement bisected by washes (Luckenbach 1982). Research in the planning area, within the Coyote Springs Valley, suggests that hills and washes are preferred habitat. Flat gravelly and rocky areas are poor tortoise habitat due to their limited burrowing potential (Garcia et al. 1982).

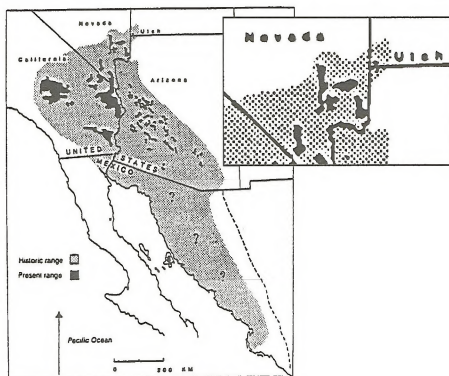
Vegetation communities consisting of high densities of perennial and annual flora, a high percentage of cover, and a high biomass of annual spring flora are necessary to support high densities of tortoises (Berry 1975; Karl 1981; Luckenbach 1982; Schwartzmann and Ohmart 1978). In Nevada, tortoises are found in creosote, creosote-bursage, and creosote-blackbrush communities on bajadas, hills, or caliche washes (Lucas 1978, 1979; Tanner and Jorgensen 1963; Turner 1980).

Desert tortoises within the planning area generally occupy habitat between 2,000 and 3,800 feet in elevation (Karl 1981). In Lincoln County, 81 percent of tortoise sign was found where the creosotebush-bursage community was dominant. Eleven percent of sign was found in the transition zone from creosote-bursage community to the blackbrush community. Eight percent of tortoise sign was identified in the blackbrush community. Tortoise density appears to be positively correlated with creosotebush; the upper limits of tortoise range (4,000 feet) correspond to those of the creosote community. Tortoise density is negatively correlated with the dominance of blackbrush and red brome (Karl 1980, 1981). The importance of the creosote community to the tortoise is attributed to the fact that it is the most stable and diversified vegetative cover, probably representing a climax community (Grover and DeFalco 1995).

Trends in Desert Tortoise Populations

Concern about the status of tortoises has increased greatly in the past 20 years (Berry 1984b; Desert Tortoise Council 1976 - 1985). Luckenbach (1982) stated that "a pronounced and steady decline" had been noted in some populations for several years. Berry (1989) asserts that across its range, tortoise numbers have declined dramatically and that many populations are now isolated. (See Map 3-2).

Berry (1989) also speculated that until about 50 years ago large tortoise populations with densities exceeding 1,000 per square kilometer extended throughout parts of California, and probably into Nevada and Utah. In areas where habitat has been destroyed by urbanization or conversion to agriculture, tortoise populations are certainly extinct (Berry and Nicholson 1984). Tortoise densities have declined in areas where habitat has been degraded, e.g. by heavy off-road vehicle activity (Bury et al. 1977; Bury and Luckenbach 1986). In relatively undisturbed habitats, there is little reliable data prior to the 1970s to indicate how densities of current populations may differ from historical densities.



Map 3-2: Current areas of desert tortoise population densities, compared to overall distributions and potential geographic range (after Berry, 1989).

The BLM collects data on desert tortoise populations by employing two methods: strip transects and permanent study plots. The strip transect method consists of a pedestrian transect walked in a 1.5 mile triangular configuration (.5 mile per side). All sign of tortoise within approximately 15 feet of either side of the transect is counted. Tortoise sign includes tortoises (alive or dead) burrows, scat, egg shells, tracks, and courtship rings. The amount of sign per transect can be correlated with tortoise abundance by conducting transects in areas with known population levels. The relative abundance of tortoise in other areas can then be estimated by conducting tortoise transects. This technique generally indicates the relative abundance of larger tortoise and can differentiate good habitat from poor habitat (Turner et al. 1982). The number of juveniles and hatchlings in a populations are more difficult to accurately assess using transect methodology. Since 1979, more than 1,400 strip transects have been completed in Nevada, greatly increasing the scientific database related to desert tortoise distribution (NDOW 1990).

The second method uses permanent study plots and a mark-recapture technique of inventory tortoise populations. Study plots are generally read every four years. Plot surveys consist of a 30 field-day capture period, followed by a 30 field-day recapture period, for a total of 60 field-days per study plot. There are 40 permanent study plots in the Mojave and Colorado Deserts: two in Utah, two in Arizona, north of the Colorado River; nine in Nevada; and 27 in California. The Coyote Springs and Sand Hollow study plots are located within the planning area in Lincoln County, Nevada. Only a limited number of the permanent study plots have multiple years of observations (NERC 1990).

Strip transect studies have identified approximately 5 million acres (7,812 mi²) as habitat supporting desert tortoises. An estimated 1,600 mi² of suitable tortoise habitat occurs in Lincoln County. Results from these transects indicate that tortoise distribution is uneven or patchy (NDOW 1990). Approximately 300 of the strip transects were conducted within Lincoln County. In April of 1980, Karl (1981) conducted 52 of these transects. That survey indicated that only 1 to 3 percent of the total area surveyed evidenced tortoise densities of 100 tortoises per square mile. The northern Coyote Springs Valley and two sites northwest and southwest of the Mormon Mountains were included within these higher density areas. The remainder of the surveyed area had densities less than 50 tortoises/mi² (see Table 3-3).

In 1981, Garcia, Berry, and Schneider conducted 281 additional strip transects in the Coyote Springs Valley of Lincoln and Clark counties and Arrow Canyon of Clark County, Nevada. Density estimates for this study indicated a wide variability of tortoise densities ranging from low (<10 tortoises) to high densities (>140 tortoises) (Garcia et al. 1982).

The Coyote Springs and Sand Hollow permanent study plots in the planning area have been read three and two times, respectively. Table 3-4 displays the results of those readings. Preliminary density estimates, using the 60-day methodology, tended to indicate relative stability in adult tortoise numbers recorded at the Coyote Springs and Sand Hollow study plots (Medica et al. unpublished reports 1992 and 1995). Other study plots (e.g. Ivanpah Valley and Gold Butte) in the northeastern Mojave have exhibited declines (Berry and Medica 1995). While there was no apparent downward trend in relative abundance of adult tortoises in the eastern Mojave, there was a decrease in the relative abundance of juvenile tortoises (NERC 1990). Some researchers warn that while populations in the Northeastern Mojave Recovery Unit "do not appear to be undergoing major changes in numbers or densities in most places, population levels are dangerously low" (written communication, Brussard 1994:1).

During the late 1980s, the relative abundance of large tortoises apparently declined in the western Mojave; the relative abundance of large tortoises was stable or increased in the eastern Mojave during that period (Corn 1994). Other data indicated that juveniles and possibly adult tortoise were less numerous after 1985 in the western Mojave (NERC 1990). The largest decreases occurred in the Desert Tortoise Natural Area and adjacent areas in California, at the western most extent of the tortoise's range. In the eastern Mojave, numbers of juveniles were reduced in a few study plots, but the trends do not comprise a major decline in overall numbers. Adults appear to be stable in numbers, but individual sites differ widely (NERC 1990).

Factors Influencing Desert Tortoise Numbers

Declines in tortoise numbers can be attributed to a variety of causes, including disease, malnutrition, predation, and human activities. Biologists have identified two diseases that affect desert tortoise populations in Lincoln County. The first of these is osteoporosis or the thinning of bone mass. This condition is often exemplified by a concavity in the plates or "scutes" of the tortoise's shell. Jarchow (1987) has suggested that concave "sunken" scutes in young tortoises could be considered a sign of malnutrition, but data are still lacking to support that contention. Osteoporosis has been documented on all Nevada permanent study plots sampled between 1990 and 1992. The percentage of tortoises encountered exhibiting sunken scutes ranged from 12 to 50 percent. Shell abnormalities (lesions) have also been documented on all study plots sampled between 1990 and 1992. The percentage of captured tortoises observed to have shell abnormalities varied from 7 to 52 percent.

Osteoporosis may make individual animals less able to withstand attacks by predators. It may also be symptomatic of an individual that has an increased susceptibility to other diseases or environmental stress.

Table 3-3. Estimated tortoise numbers by density class (Karl, 1981).

ESTIMATED TORTOISE PER SQ MILE	NUMBER OF TRANSECTS	PERCENTAGE OF ALL TRANSECTS	ESTIMATED AREA IN SQ. MILES OCCUPIED BY EACH DENSITY CLASS	
0-10	26	50	660	72
1-10	8	15.4	85	9
11-50*	17	32.6	165	18
51-100	1	2	10	1
TOTAL	52	100	920	100

* - Approximately 30 mi² (2 transects) may have tortoise densities up to 100 tortoise/mi².

Table 3-4. Actual numbers of animals in study plots recorded during the sampling period.

PLOT	1986	1989	1992	1994
COYOTE SPRINGS	78		89*	
	44		53	
SAND HOLLOW		7		7
		5		6

* - Study plot sampled for 120 days.

The second disease causing desert tortoise mortalities is an upper respiratory tract disease (URTD) that is both highly contagious and often fatal. Caused by *Mycoplasma agassizii*, the disease was apparently introduced to wild populations through the release of captive tortoises (Berry and Medica 1995). The disease infects all age groups of tortoises, and can seriously impact small, isolated populations. Some researchers have hypothesized that habitat degradation and reductions in forage quality may be factors in the spread and severity of the disease (Jacobson et al. 1991; Dickinson et al. 1995). In some portions of the species habitat, the disease has... "caused the deaths of thousands of wild tortoises...during the last few years" (Berry and Medica, pg. 136, 1995). This condition has been documented within the permanent study plots in the Coyote Springs Valley of the planning area; none of the animals observed showed advanced or chronic signs of the disease.

Malnutrition has been implicated as a direct or indirect cause of declining tortoise populations. Borysenko and Lewis (1979) have shown that malnutrition can cause immunosuppression and an increased susceptibility to disease. Several researchers have hypothesized that competition between domestic livestock and desert tortoises for forage, particularly during years of poor rainfall, can reduce the amount of forage available to tortoises (USFWS 1991; written communication Brussard 1994: 3). Tracy (pg. 14, unpublished draft manuscript, 1995) has computed the forage needs of adult tortoises and developed recommended amounts of forage that must be available to maximize the potential for full tortoise reproduction (e.g. 288 lbs. per acre) (written communication Brussard 1994: 3). Insufficient amounts of forage could lead to malnutrition, low reproduction rates, and higher mortality rates.

Others who have reviewed the published literature on desert tortoise forage needs have speculated that competition does not occur between domestic livestock and tortoises, since forage production (annuals and

perennials) in the Mojave Desert is sufficient to provide for tortoise survival (Resource Concepts, unpublished report 1988; Bostick 1990). These conclusions are generally dismissed by tortoise biologists who offer the following detailed analyses of tortoise nutritional and reproductive requirements.

Tortoise researchers have noted that while sufficient forage may be available to desert tortoises, the forage lacks certain critical nutrients required by tortoise for optimum health and reproduction (Nagy and Medica 1986; USFWS 1991). Desert tortoise habitat in the Mojave Desert once consisted of native shrubs, interspersed with perennial bunchgrasses. These warm season native grasses were high in protein and phosphorus, important nutrients for desert tortoise growth and reproduction. As a consequence of many factors, including human activities, overgrazing by domestic livestock, and wild fires, the native perennial grasses have been largely replaced by annuals, including exotic species like red brome. Tortoises also rely on the high fiber content of perennial grasses to sustain their metabolic needs and reproductive processes after the spring ephemerals have died (Jarchow and May 1989). When high quality forage is not available, malnutrition or starvation can occur; starvation was reported as the cause of recent tortoise mortalities in Ivanpah Valley in California (USFWS 1991).

Predation is also an important factor in desert tortoise mortality. Ravens (*Corvus corax*) are the primary predators, although golden eagles (*Aquila chrysaetos*), red-tailed hawks (*Buteo jamaicensis*), burrowing owls (*Athene cunicularia*), and roadrunners (*Geococcyx californianus*) will also consume desert tortoises. Raven populations in the Northeastern Mojave Recovery Unit have increased in tandem with urbanization and human activities. The birds forage in garbage dumps, along highways, and roost or nest on power transmission towers and power lines. The data are currently insufficient to quantify the effects of raven predation on desert tortoise populations in Lincoln County. However, observers in the western Mojave Desert have documented ravens killing live, healthy juvenile tortoises (BLM 1989). Based on data collected from California study plots between 1974 and 1987, Berry (1988) has suggested that raven predation is a significant cause of desert tortoise mortality, perhaps accounting for as much as 85 percent of mortality among hatchlings and juveniles. Excessive predation on juveniles can affect the adult breeding population and contribute to population declines. According to some researchers, excessive raven predation must be reduced if management efforts to recover the species are to be effective (BLM 1989). In 1989, a raven control program was initiated by BLM, in cooperation with the USFWS and the California Department of Fish and Game, for the Mojave Desert of California; the program was suspended in response to public protests and litigation.

Predation by coyotes (*Canis latrans*), kit fox (*Vulpes macrotis*), badgers (*Taxidea taxus*), and feral dogs has also been documented (c.f. Woodbury and Hardy 1948; Mortimore and Schneider 1983; Berry 1988). These researchers have proposed that desert tortoise populations experience increased predation when primary prey, such as rabbits and rodents, decline in numbers. It has been suggested that "the most important limiting biotic factor on the desert tortoise is probably predation" (Resource Concepts, unpublished report 1988:7).

Some mortalities have been attributed to the trampling of individual tortoises and tortoise burrows and/or dens by large grazing animals (USFWS 1994a). Grazing by domestic sheep and cattle has been ongoing in the planning area since the mid-1800s; this use increased in intensity near the turn of the century and has declined since the end of World War II (Resource Concepts, unpublished report 1988:1). Trampling by domestic sheep has been documented in some areas of the Mojave Desert, but not within the planning area. For example, during a one year study in California, Nicholson and Humphries (1981) noted that approximately 6 percent of tortoise burrows were damaged and 3 percent destroyed by 1,000 sheep grazing for 12 days. Berry (1988) cited 15 alleged incidences of the trampling of juvenile tortoise by domestic sheep between 1973 and 1987, also in California. A recent study sponsored by BLM in the western Mojave has indicated that sheep "can directly kill through trampling approximately 20 percent of juvenile tortoises with which they come into contact" (written

communication Brussard 1994: 3). Domestic sheep generally are herded in tight groups and consequently impact more surface area of the ground.

Quantitative evidence on the effects of cattle trampling on tortoise mortality is less well documented, although some direct observations support the occurrence of such trampling (Duck 1991; Dickinson et al. 1995). No incidences of desert tortoise trampling by livestock have been documented in the planning area.

Human activities, such as construction, mining, OHV use, vandalism, and illegal collection, also contribute directly and indirectly to tortoise mortality rates. Individual tortoises are injured or killed by vehicles and heavy equipment, both along highways and off road. Tortoise burrows containing egg clutches may be crushed by equipment or off-highway vehicular travel. Human "predation" or vandalism are also direct causes of desert tortoise mortality in some areas of its range. Berry (1986) has observed that approximately 3 percent of tortoise carcasses collected from the western Mojave Desert areas showed signs of gunshots received while the animals were still alive. The collection of desert tortoises for pets has been on-going for many decades throughout its habitat (USFWS 1994a). This practice has reduced tortoise numbers in many areas; captive tortoises released back to the wild may spread the URTD to previously unexposed populations, thereby increasing mortality rates.

The indirect effects of these human uses include habitat loss and fragmentation that can affect mortality rates for specific populations. Some researchers have argued that the combined effects of human-caused mortalities and "the continued and escalating loss of habitat" as a result of human activities could result in the extinction of the desert tortoise, at least in the western Mojave Desert before the turn of the century (written communication Brussard 1994:3).

Relationship Between Livestock Grazing and Desert Tortoise

The relationship between domestic livestock grazing and desert tortoise is a controversial issue. According to the USFWS, possible direct impacts to tortoise from livestock grazing include trampling of both tortoises and shelter sites (*Federal Register*, Vol. 39, No. 28, Tues. Feb. 8, 1994: 5824). Indirect impacts comprise adverse modifications to habitat including loss of plant cover, loss of suitable shelter sites, changes in vegetation, soil compaction, reduced water infiltration, and the provision of a favorable seed bed for exotic annual vegetation (*Ibid*). The degree of impacts are dependent on the local ecosystem, grazing history and season of use, and the density of the tortoise populations.



Investigations into the effects of livestock grazing on desert tortoises and their habitat have been ongoing since the late 1970s (Berry 1988; USFWS 1994c; Oldemeyer 1994; BLM 1996a). A number of researchers have implicated dietary overlap and habitat changes as two important variables in the relationship (Berry 1978; Nicholson and Humphreys 1981; USFWS 1990).

Dietary Overlap

According to Oldemeyer (1994:100), "the primary evidence that grazing by livestock harms desert tortoise relates to an overlap in food habits of livestock and tortoises". Two studies have suggested that tortoises and cattle consume many of the same plant species, especially during the spring (Hohman and Ohmart 1978; Hansen et al. 1976). Desert tortoise show a preference for grasses and forbs in their diets (Oldemeyer 1994). Although few detailed studies of livestock dietary preferences have been conducted in the Mojave Desert (cf. Oldemeyer 1994), grasses characteristically dominate cattle diets. In the Mojave Desert, these would include the perennial grasses such as galleta, Indian ricegrass, bush muhly, squirreltail (*Sitanion hystrix*), and sand dropseed and perhaps the annual grasses (e.g. six-weeks fescue (*Vulpia octoflora*), six-weeks grama (*Bouteloua barbata*) and others). Cattle also consume palatable shrubs, as well as perennial and annual forbs, depending on their availability (Hohman and Ohmart 1980; NERC 1990). In Piute Valley, Nevada, cattle diets principally consisted of shrubs during the dormant season and herbaceous annuals during the spring growing season. Fecal samples collected during the dormant season were dominated by white bursage, littleleaf krameria (*Krameria* spp.), galleta, blackbrush and Nevada ephedra. During the growing season, fecal samples contained filaree, six-weeks annual fescue, woolly plantain, red brome, desert globemallow (*Sphaeralcea ambigua*) and sixweeks grama. As the ephemeral plants disappeared during summer, cattle resumed a diet of perennial shrubs and grasses. Domestic sheep consume more forbs and shrubs than grasses (Nicholson and Humphreys 1981).

Competition between tortoises and livestock can vary due to seasons of use, vegetative types, and rainfall, making it difficult to make precise interpretations. Coombs (1979) has suggested that the dietary overlap between tortoises and cattle would be much higher were it not for the browse species in the diets of the livestock. Hohman and Ohmart (1980) reported that overlap was greatest during the early spring, then decreases during the summer. Berry (1978) suggested that the early spring was a critical period for reducing livestock competition with tortoises for food. On the Beaver Dam Slope, Sheppard (1981) indicated a 60 percent dietary overlap in April, before annuals cured and livestock shifted to perennial forage. Annual grasses appeared to be a buffer for reducing competition, but only when annual densities were high. Hohman and Ohmart (1980) indicated that forbs averaged 39 percent of cattle diet and that dietary overlap averaged 40 percent, but ranged to 60 percent in early spring. (See Appendix G for species list).

The dietary overlap between domestic livestock and tortoise could account for declines in tortoise populations, particularly during periods of below average precipitation (Dickinson et al. 1995). Tortoise populations are incapable of rapid growth, even under optimum conditions. The USFWS has concluded that "[a]t this time there are no data showing that continued livestock grazing is compatible with the recovery of the desert tortoise, although it appears that cattle grazing under certain circumstances can be compatible with desert tortoise survival" (USFWS, pg. 58, 1994a).

A few investigators have developed opinion papers that concluded that livestock grazing was of benefit to the desert tortoise. In particular, Bostick (1990), hypothesized that desert tortoise relied on cattle dung to maintain their populations. While it is true that desert tortoise have been observed eating dung, they have also been observed eating rocks, balloons, bones, and other non-nutritive materials.

Bostick (1990) indicates that because the tortoise is ill equipped to harvest and masticate range food, then the tortoise primarily feed on dung. This assertion ignores the presence of effective shearing surfaces in the tortoise beak and the voluminous nature of the tortoise digestive tract, both of which assist in the processing of

desert plants. Based on behavioral observation, tortoises consume not only the tender ephemeral species but also the much coarser tissues of senescent grasses (Barboza & Oftdal, 1992).

Another proposed benefit of a dung diet in Bostick (1990) is as a source of moisture. However, given the rapid desiccation of feces in the desert, it seems unlikely that this would be a reliable source of water (Barboza & Oftdal, 1992).

The hypothesis that cattle dung can serve as an important source of nutrients for tortoise overlooks the fact that cattle dung represents the least digestible residues of the food plants. The quality of cattle dung will depend both on the efficiency of digestion by cattle and the quality of feed from which it originally derived. Domestic cattle are very efficient at utilizing fibrous diets and the dung they produce will therefore have little digestive or nutritional value. It is highly unlikely that wild ungulates consuming forages would excrete 80% of the total nutrients in feeds' as suggested by Bostick (1990). Typical digestibility for cattle grazing coarse grass are about 50% of dry matter, 45% of neutral detergent fiber (NDF), 70% for protein, and 90% for fat. Thus even with an emergent spring grass, such as *Hilaria rigida* which contains (on a dry matter basis) about 65% NDF, 14% crude protein and 1% fat, the dung produced may contain as much as 72% NDF, and as little as 8% protein and 0% fat (assuming the digestibility cited above). At face value this chemical composition resembles a very poor quality straw, but the actual digestive value is even worse because most readily digested materials such as soluble carbohydrates have been removed, leaving a matrix of highly resistant fiber residues. Furthermore only a small portion of the fecal protein would be usable since most nitrogen would be bound to the fiber residues. The obvious conclusion is that cattle dung is far less beneficial to a tortoise than are the grasses from which the dung was originally produced (Barboza & Oftdal, 1992). Allen (1998) conducted a study to determine the nutritive properties of cattle dung, and specifically, on the ability of tortoises to extract nutrients from the dung. For a digestibility study, cattle dung was offered to 14 healthy juvenile tortoises as the sole food during a one month adaptation period. Only four animals would eat a sufficient amount to be included in a subsequent four week digestibility study. Samples of offered dung and all uneaten dung were collected and dried to determine dry matter (DM) intakes. All tortoise excreta were also collected for nutritional analysis. During the third and fourth weeks of the trial, average DM intake was not significantly different from fecal excretion (mean difference $+0.44 \pm 0.22$ SEg/2wk), suggesting a net digestibility of zero. On a DM basis, dung samples contained $50.0\% \pm 0.34$ acid detergent fiber (ADF), $1.34\% \pm 0.012$ total nitrogen (TN), and 4.24 ± 0.542 kcal/g gross energy. These constituent levels did not differ significantly from those of uneaten dung. The estimated digestibility of energy and ADF were not significantly different from zero and the estimated TN digestibility was negative. Based on preliminary trial results, the suggestion that tortoises have benefitted from a symbiotic relationship with cattle and their dung is clearly speculative.

Habitat Change

Grazing by cattle and sheep has been implicated as a factor causing deterioration of desert tortoise habitat (cf. Berry 1978, Coombs 1979, Webb and Stielstra 1979). Desert ecosystems require decades to recover from disturbances, based on low precipitation rates. Livestock grazing has altered perennial vegetation in a number of ways. It has caused, or contributed substantially to, the reduction and loss of native perennial grasses (e.g. members of the genera *Bouteloua*, *Hilaria*, *Stipa*, *Oryzopsis*, *Poa*, *Muhlenbergia*, *Sporobolus*) in the desert (USFWS 1994a). According to some studies, perennial grasses such as needlegrass (*Stipa*), grama grasses (*Bouteloua* spp.), and fluffgrass (*Erioneuron pulchellum*) have been significantly reduced in number, as a result of livestock use (Berry 1984). Much of the western Mojave Desert has been altered from grassland to

shrubland, and perennial bunch grasses have disappeared or have been severely reduced by grazing in many creosote communities (Berry and Nicholson 1984). Perennial grasses in many areas have been replaced by woody shrubs, often with an understory of non-native annual grasses introduced from Europe and Asia.

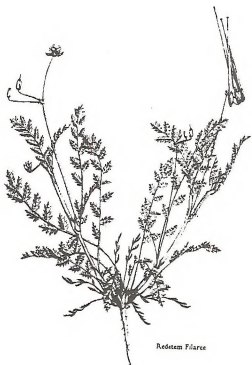
In the late 1940s, Woodbury and Hardy (1948) noticed the decrease in perennial grasses in the Beaver Dam Slope of Utah and forewarned of the problems that would result from heavy livestock grazing. They observed that bush muhly was the most abundantly used and important food item for desert tortoises. This is no longer the case, as bush muhly is no longer a substantial part of the tortoise diet (Coombs 1977).

Nish (1964) and Coombs (1977) noted that the cover and densities of perennial grasses on the Beaver Dam Slope were generally low, but were more abundant in less grazed areas. Tortoises showed a high preference for these less grazed areas. Tortoises also showed a high preference for bush muhly, even though it was only a minor portion of the diet. Perennial grasses are particularly important in the diets of desert tortoise, as they supply both water and nutrients during spring, summer, and fall. Because of the past 100 years of livestock grazing, perennial grasses are in shorter supply. These changes resulted in an overall deterioration in habitat quality for desert tortoises (Oldemeyer, 1992).

Livestock also play an important role in the proliferation of non-native weeds such as filaree, Mediterranean grass (*Schismus barbatus*), Arabian schismus (*S. arabicus*), brome grasses (*Bromus spp.*), and Russian-thistle (*Salsola kali*) (USFWS 1994c). The seeds of these species are transported to new areas by cattle and sheep, either on their coats or through manure. These introduced annuals now comprise much of the annual flora in grazed areas (Berry and Nicholson 1984). Introduced exotic annuals have a tolerance for soil compaction and can survive heavy grazing pressure better than can native species. They outcompete and replace the native species in heavily grazed areas (Webb and Stielstra 1979). Exotic species, such as red brome and filaree, have been correlated with low tortoise population density and low density of other annuals and are indicators of extensive grazing (Karl 1981).

Livestock grazing has also changed the composition of shrubs used by desert tortoises for cover (USFWS 1994c). For example, sheep reduced some perennial shrubs by 65 to 68 percent in volume and by 16 to 29 percent in cover. In areas consistently and heavily grazed by sheep, cover of many species of shrubs was substantially reduced; creosote and weeds often became the predominant vegetation (Webb and Stielstra 1979). The following shrubs can be reduced in numbers and vigor in such grazed sites: burro bush (*Hymenoclea spp.*), goldenhead (*Acamptopappus sphaerocephalus*), Anderson wolfberry (*Lycium andersonii*), Spiny hopsage, winter fat, and Mojave aster (*Machaeranthera tortifolia*) (USFWS 1994c).

In those desert environments where livestock grazing has been eliminated, some changes in vegetative communities have been observed. For example, regrowth of bush muhly was noted in portions of Eldorado Valley and Piute Valley (Clark County) where livestock grazing has been eliminated (Ofidal and Allen 1996). Other studies (cf. Shreve and Hinckley 1937; Gardner 1950; Waser and



Redstem Filaree

Price 1981; Durfee 1988) have documented increases in native perennial grasses in desert areas protected from livestock grazing. The rates of change were noted as being very slow.

The replacement of native annuals and once prominent perennials (such as bush muhly) could be an important factor in the decline of desert tortoise numbers. Exotic annuals, when consumed by desert tortoise, could cause a shortage of water and nutrients and complicate electrolyte elimination (Coombs 1979). Dietary stresses could account for increased incidences of malnutrition, greater susceptibility to disease, and lowered reproduction rates. Since desert tortoises live for many decades, these changes in habitat have occurred during the lifetime of individual animals. Their food and cover requirements have evolved over thousands of years of adaptation to the Mojave Desert environment. Tortoises lack the genetic capability to rapidly adapt to these new habitat conditions (Coombs 1979).

A limited number of investigators have developed opinion papers that contradict the conclusions drawn by tortoise biologists and researchers. Bostick (1990) has proposed that the desert tortoise numbers have declined in tandem with decreasing livestock numbers grazed on the public lands. In an unpublished report, Resource Concepts (1988) suggested a parallel between reductions in sheep grazing pressure and declining tortoise populations. These conclusions are not generally accepted by those scientists who are currently engaged in desert tortoise studies. The preponderance of evidence generally indicates that livestock grazing negatively impacts both the desert tortoise and its habitat.

Resource Concepts, Incorporated (RCI), 1996 published an annotated bibliography with 850 citations with a summary developed. These citations include professional publication, letters, personal communication, news articles, EISs, EAs, Federal Register notices, and other reports. There are 58 professional publications relating to the effects of grazing with summaries developed. Of these, 53 conclude and describe negative impacts to native desert vegetation communities, 2 indicate a no effect in their study, and 3 suggest positive impacts to the desert vegetation. Twenty-two of these citation specifically identify impacts to desert tortoise. One article suggests positive impacts of grazing on desert tortoise, 2 suggests that there is no impact on desert tortoise and 19 conclude and describe that there are negative impacts on desert tortoise from grazing.

Habitat Management

Under the ESA, the BLM is required to ensure that any activity which the agency authorizes, funds or conducts does not threaten the continued existence of a listed species. To evaluate the potential effects of proposed activities on listed species, BLM must consult with the USFWS under Section 7 of the ESA on any activities that may affect a listed species. Section 7 consultations have considered a variety of activities, including OHV events, rights-of way, mineral activities, and livestock grazing.

Designated Critical Habitat

The desert tortoise was listed as a threatened species in 1991 and critical habitat was designated by the USFWS in 1994. A total of 6.4 million acres of critical habitat were designated by the USFWS for the Mojave population of the desert tortoise (*Federal Register*, pg. 5820-5866, Vol. 59, No.26, Tues. Feb. 8, 1994). Critical habitat is defined in Section 3 of the ESA as those habitat areas that contain physical or biological features essential to the conservation of the species, whether or not the species is currently present in that habitat. Critical habitat is further defined as those areas that may require special management considerations or protection. Of the total designated critical habitat for desert tortoise, 1,224,400 acres (or 19 percent) are within

Nevada. Designated critical habitat in Lincoln County totals 244,900 acres. The planning area contains 5 percent of the total critical habitat and 26 percent of critical habitat designated within Nevada.

The USFWS will revise critical habitat in the future as land management plans, recovery plans, or other conservation strategies are developed and fully implemented reduce the need for the additional protection provided by critical habitat designation.

ONGOING RESEARCH

Research related to long-term survival of the desert tortoise in its native habitat has been ongoing at the Desert Tortoise Conservation Center, established by BLM in 1989. Located in Las Vegas, the Conservation Center has supported studies by researchers from the Smithsonian and other academic institutions on desert tortoise physiology, behavior, reproduction, and the causes and transmission of tortoise diseases.

Sensitive Species

Several sensitive species are known or predicted to occur in the planning area. The banded gila monster is a BLM sensitive species, as well as a State of Nevada protected and rare species. Often found in association with springs and ephemeral and perennial tributaries of the Colorado River, gila monsters have been observed in Meadow Valley Wash, the Pahrangat Valley, and the Tule Springs Hills. The species is also found on rocky slopes, in washes and riparian areas. Since the gila monster spends up to 90 percent of its time underground, observations are relatively infrequent.

The chuckwalla lizard is another BLM sensitive species. These are large, herbivorous lizards, generally found at elevations below 5,000 feet, on rocky outcrops and slopes. Suitable habitat for chuckwallas includes most mountain ranges in southern Nevada.

Other sensitive species that could be found in the planning area include various species of bats, fish, and amphibians. Some bat species that may be found within the planning area are the spotted bat (*Euderma maculatum*), Allen's big-eared bat (*Idionycteris phyllotis*), California leaf-nosed bat (*Macrotus californicus*), Small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*M. evotis*), fringed myotis (*M. thysanodes*), long-legged myotis (*M. volans*), big free-tailed bat (*Nyctinomops macrotis*), and the Pale Townsend's big-eared bat (*Plecotus townsendii pallascens*). These species may inhabit the planning area, with a greater potential for occurrence in the Mormon, Meadow Valley, and Delamar Mountains. The Meadow Valley Wash may provide habitat for sensitive fish species including the Meadow Valley Wash desert sucker (*Castostomus clarki* spp.), Meadow Valley Wash speckled dace (*Rhinichthys oscula* spp.), and the Arizona toad (*Bufo microscaphus microscaphus*).

FORESTRY AND VEGETATIVE PRODUCTS

Desert Vegetation

Although the Caliente Field Station has no formal program for the harvesting of desert vegetation, many species are made available to the public when destruction of these plants would occur as a result of project construction or facilities development (e.g. power line installations, mining activities, etc). The demand for native seeds and plants has increased over the past decade, as nearby urban areas, such as Las Vegas and St. George, have encouraged the use of drought tolerant plants in landscaping. To date, no permits for seed collection have been issued within desert tortoise habitat. A small number of permits for desert vegetation salvage were issued at the northern extreme of desert tortoise habitat, along Kane Springs Road.

SPECIAL STATUS PLANT SPECIES

No known threatened or endangered plant species occur within the planning area. The following is a list of sensitive species that may be found in the planning area (data on file, Caliente Field Station 1996):

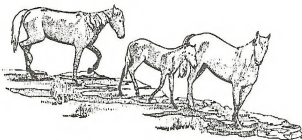
Nye milkvetch (*Astragalus nyensis*)
 Utah century plant Agave (*Agave utahensis*)
 Cloky Pincushion Cactus (*Coryphantha vivipara* var. *roseus*)
 Cedar Canyon phlox (*Gilia ripleyi*)
 Musky Phlox (*Phlox gladiiformis*)
 Miners Compass Cactus (*Ferocactus acanthodes* var. *lecontei*)
 Meadow Valley sandwort (*Arenaria stenomeres*)
 White bearpoppy (*Arctomecon merriamii*)
 Threecorner milkvetch (*Astragalus geyeri* var. *triquetrus*)
 Sticky buckwheat (*Eriogonum viscidulum*)

LIVESTOCK GRAZING MANAGEMENT

Twenty-five livestock grazing allotments, totalling approximately 1,331,500 acres, are either partially or entirely contained within the planning area (Map 3-3). Of that total, approximately 245,000 acres are within designated critical habitat for the desert tortoise. Most of the allotments are cow-calf operations. The Beacon Allotment, located within the Sand Hollow Allotment (a dual use area), has historically been used in March for one month to graze domestic sheep. Three allotments with domestic horse permits are licensed. Four allotments are managed by other field offices. Three of the four allotments Flat Top Mesa, Jackrabbit and Pulsipher Wash are managed by the Las Vegas Field Office and the Terry Allotment is managed by the Arizona Strip Field Office. The Terry Allotment is managed as a pasture of the Scarecrow Peak Allotment in the Arizona Strip Field Office. Table 3-5 displays data relating to the allotments within desert tortoise habitat; Table 3-6 shows allotment acreage.

WILD HORSE AND BURRO MANAGEMENT

The Mormon Mountains, Meadow Valley Mountains, and Blue Nose Peak HMAs are located within the planning area (refer to Map 2-9). The Mormon Mountains HMA encompasses the entire Mormon Mountain range and is bounded on the northwest by Meadow Valley Wash. The wild horse herd within the boundaries of this HMA has historically been a small population of approximately 15 horses. Wild horses generally use only the northwest quarter of the HMA, where adequate water can be obtained from Meadow Valley Wash. Steep terrain significantly reduces the amount of suitable grazing acreage, while the lack of accessible water make other portions of the HMA unusable for wild horses.



Portions of the herd also utilize areas outside of the HMA, including the Breedlove and Rox-Tule Allotments, where suitable foraging areas and accessible water can be found. The number of wild horses using areas outside of the Mormon Mountains HMA have historically been quite high. Burros and/or wild horses have also been reported along the Lincoln-Clark County boundary line. In October 1993, the BLM removed 211 horses, mules, and burros from areas west of the Mormon Mountains HMA within the Breedlove and Rox-Tule

Livestock Grazing Allotments Within the Planning Area

Map 3-3

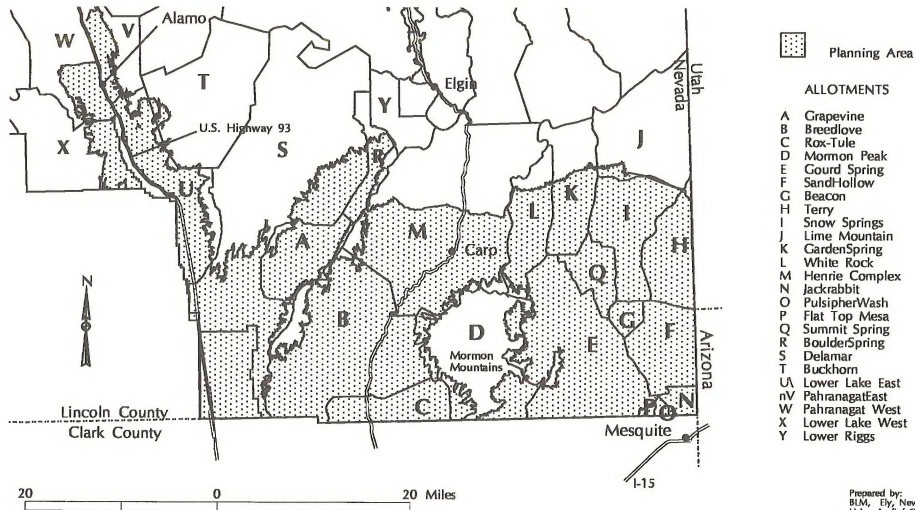


Table 3-5. Permitted use, kind of livestock, and season of use for the entire allotment.

ALLOTMENT	PERMITTED USE	KIND OF LIVESTOCK	SEASON OF USE
Breedlove	864	Cattle & Horses	6-15 to 2-28
Boulder Spring	600	Cattle	10-1 to 3-31
Buckhorn	3,370	Cattle	3-1 to 2-28
Delamar	5,558	Cattle	3-1 to 2-28
Flat Top Mesa	*E	Cattle	*E
Garden Spring	2,809	Cattle & Horses	10-1 to 5-31
Gourd Spring	3,458	Cattle & Horses	10-1 to 5-31
Grapevine	560	Cattle	3-1 to 2-28
Henrie Complex	3,458	Cattle	3-1 to 2-28
Jackrabbit	*E	Cattle	*E
Lime Mountain	6,754	Cattle	10-1 to 5-15
Lower Lake East	690	Cattle	3-1 to 2-28
Lower Lake West	1,247	Cattle	3-1 to 2-28
Lower Riggs	1,408	Cattle	5-1 to 3-24
Mormon Peak	600	Cattle	6-15 to 2-28
Pahranagat East	511	Cattle	8-1 to 5-31
Pahranagat West	2,430	Cattle	10-1 to 5-31
Pulsipher Wash	*E	Cattle	*E
Rox-Tule	756	Cattle	6-15 to 2-28
Terry	1,511	Cattle	10-1 to 5-31
Sand Hollow	2,430	Cattle	10-1 to 2-28
**Beacon	2,095	Sheep	6-15 to 2-28
Snow Springs	3,567	Cattle	10-1 to 5-31
Summit Springs	715	Cattle	10-1 to 5-31
White Rock	2,880	Cattle	10-1 to 5-31
*E-Ephemeral Allotment (see Glossary)			
**Beacon Allotment is located within the Sand Hollow Allotment, a dual use are for cattle and sheep			
(Source: BLM, Caliente Field Station data)			

Table 3-6. Allotment acreage in desert tortoise habitat and critical habitat.

ALLOTMENT	TOTAL ACRES	ACRES IN TORTOISE HABITAT	ACRES IN CRITICAL HABITAT
Breedlove	121,500	110,600	25,500
Boulder Spring	17,800	9,700	0
Buckhorn	80,700	2,400	0
Delamar	245,400	101,100	43,500
Flat Top Mesa	1,400	1,400	0
Garden Spring	39,200	22,200	0
Gourd Spring	97,700	93,500	44,800
Grapevine	34,200	30,200	12,300
Henrie Complex	169,100	84,700	0
Jackrabbit	6,200	6,100	0
Lime Mountain	21,000	2,800	0
Lower Lake East	53,700	24,700	14,400
Lower Lake West	65,200	13,300	0
Lower Riggs	19,500	100	0
Mormon Peak	17,800	24,400	12,100
Pahranagat East	30,300	11,600	0
Pahranagat West	56,300	14,300	0
Pulsipher Wash	1,400	1,400	0
Rox-Tule	25,600	25,500	23,900
Terry	31,500	30,500	22,000
Sand Hollow* (Beacon)	41,200	41,100	36,900
Snow Springs	44,400	44,000	6,600
Summit Springs	17,600	17,600	3,000
White Rock	33,000	24,700	0
TOTALS	1,331,500	754,600	245,000
<p>* Sand Hollow and Beacon Allotments are a dual use area; Beacon Allotment totals 5,682 acres, all within designated critical habitat, with 2,095 AUMS permitted for domestic sheep. This acreage is included within the total acreage for the Sand Hollow Allotment. (Source: BLM Caliente Field Station data)</p>			

Allotments. Due to severe drought conditions in 1996, 9 horses, 6 burros, and 8 mules were removed from within the Breedlove Allotment.

The Meadow Valley Mountains HMA is located between Meadow Valley Wash and the Meadow Valley Mountains. Hackberry Canyon serves as the southern boundary of the HMA. Wild horse use is concentrated primarily in the southern two-thirds of the HMA, where adequate water can be obtained from Meadow Valley Wash and two perennial springs in Hackberry Canyon. The northern third of the HMA is utilized by wild horses, but not as frequently as the southern portions, due to the lack of perennial water. In 1993, a wildland fire burned substantial acreage within the HMA. An emergency removal of wild horses was conducted, during which 101 wild horses were gathered from the HMA; 17 horses were later returned to the HMA. Due to severe drought conditions in 1996, an emergency removal of wild horses was conducted within the HMA, during which 39 horses were removed. The current population estimate is between 35-50 wild horses. Some interaction may occur between the wild horses of the Mormon Mountain HMA and those in the Meadow Valley Mountain HMA, generally at the accessible water in Meadow Valley Wash. As a result of this interaction, some of the horses may have established home ranges within both HMAs.

The southeastern portion of the Blue Nose Peak HMA is contained within the planning unit. This HMA includes the south slope of the Clover Mountains, with Meadow Valley Wash forming the west boundary. The wild horse herd, estimated to number between 20 and 30 animals, concentrates its use in the northern half of the HMA, outside of desert tortoise habitat.

LANDS

The planning area is comprised of public lands administered by BLM. Small tracts of private land are found along U.S. Highway 93 in Coyote Springs Valley and Pahrangat Valley and along the Meadow Valley Wash. No management direction proposed in this plan amendment would directly affect these private lands. A large tract of BLM-administered public land, totaling more than 13,000 acres, was conveyed to the Aerojet Corporation through legislative action in 1988 (Public Law 100-275). Of that total, approximately 7,370 acres were located within the Coyote Springs Valley of Lincoln County. These lands have recently been sold by Aerojet to Harrih Investments, LLC. The legislation also designated a mile-wide transportation and utility corridor through the private lands, paralleling U.S. Highway 93. These private lands are not included within the planning area; Section 10 of the ESA addresses the compliance requirements on private lands for listed species.

Many land use authorizations have been granted in the planning area, including rights-of way for power and telephone lines, communication, and material sites; leases under the R&PP Act; and airport leases under the Airport Act. The majority of existing authorizations are for linear rights-of-way, including power transmission lines, State and Federal highways, and gas transportation pipelines. The Intermountain Power Project's 500 kV transmission line and the Kern River natural gas pipeline bisect designated critical habitat for desert tortoise. Two existing utility lines and one granted (but as yet unconstructed) 500 kV transmission line for the SWIP cross the Coyote Springs Valley. The Union Pacific Railroad right-of-way follows the canyon of the Meadow Valley Wash. Several communication sites have been developed within the planning area.

Local government entities and private individuals have expressed interest in acquiring public lands within the planning area. Lincoln County Commissioners have identified lands near Alamo and Ash Springs for community expansion. The City of Mesquite has been investigating the possibility of acquiring public lands in Lincoln County, in order to expand an existing landfill. All of the lands under consideration are within desert tortoise habitat.

RECREATION

The majority of recreational use within desert tortoise habitat is casual, dispersed use. Recreational opportunities in the area include hunting, trapping, hiking, primitive camping, photography, wildlife viewing, sightseeing, and OHV use (both casual use and organized and/or competitive use). Overall, recreation use in the planning area is very light. Total estimated annual recreational use within the planning area ranges from 1,000 to 2,000 visitor days (data on file, BLM, Caliente Field Station 1995).

Hunting activities are generally concentrated at springs and artificial water sources (guzzlers) located throughout the area. Gambel's quail are the most important game bird in desert tortoise habitat. Mule deer and desert bighorn sheep hunting occurs but generally at higher elevations, outside of tortoise habitat. Coyote, bobcat, kit and gray fox, and mountain lion are trapped and/or hunted during the winter months.

Hiking, primitive camping, photography, wildlife viewing, sightseeing, and casual OHV use occurs throughout the year. Because the planning area is located a long distance from large population centers, much of the casual OHV use occurs in association with hunting, trapping, or other activities. Unlike many areas near large population centers like the Las Vegas Valley, Lincoln County has not experienced high levels of casual use on organized OHV courses. Organized OHV use has also been very limited in the planning area, averaging only one event per year. A total of 51,360 acres of the planning area is already designated as limited to existing roads and trails for all motorized OHV use to protect desert tortoise habitat. Another portion of the planning area, totalling 16,960 acres, is designated to limit competitive events to existing roads to protect gila monster habitat. The designation for this habitat does not apply to casual OHV use.

WILDERNESS STUDY AREAS

Portions of five WSAs are within or immediately adjacent to desert tortoise habitat. These are indicated on Map 2-1 and include Evergreen ABC WSA (NV-050-01R-16); Fish and Wildlife #1 (NV-050-201); Delamar Mountains WSA (NV-050-177); Meadow Valley Mountains WSA (NV-050-156); and the Mormon Mountains WSA (NV-050-161). Portions of the Mormon Mountains and Meadow Valley Mountains WSAs have been recommended to Congress as suitable for wilderness designation; the remaining three WSAs have been recommended as unsuitable. All five WSAs continue to be managed according to the IMP which generally prohibits surface-disturbing activities, including off-road vehicle travel.

Evergreen ABC WSA was studied under Section 202 of FLPMA, following the April 1985 decision in *Sierra Club v. Watt* concerning certain lands that were deleted from wilderness review in 1982 and 1983. The WSA contains three small sub-areas, totaling only 2,694 acres, sandwiched between the USFWS Desert National Wildlife Range on the west and U.S. Highway 93 on the east. Primarily due to its location contiguous to the Wildlife Range (most of which was once recommended for wilderness designation), this area was reinstated as a WSA. Although no acreage was recommended for wilderness designation, the desert tortoise was identified as a special feature of the area and was considered in developing the wilderness recommendation.

Fish and Wildlife #1 WSA encompasses approximately 11,090 acres bordered by the Desert National Wildlife Range on the west and U.S. Highway 93 on the east. Only the northern portion of this WSA is within Lincoln County and the planning area. Like the Evergreen WSA, the Fish and Wildlife WSAs (#1, 2, and 3) were identified as WSAs in support of the USFWS recommendation that the majority of the adjacent Desert National Wildlife Range be designated as wilderness. This wilderness recommendation was later withdrawn. Since the WSA does not contain outstanding wilderness qualities on its own, no acreage was recommended for wilderness

designation in the BLM Wilderness Report prepared for submission to Congress in 1990. The presence of desert tortoise was among the special features identified and considered in developing the wilderness recommendation.

Delamar Mountains WSA contains 126,257 acres located at the southern end of the Delamar Mountains. Elevations within the WSA range from 2,600 to 6,300 feet, consisting of a series of bajadas that generally surround a rugged mountainous interior. The majority of desert tortoise habitat is in the lower bajadas, on the southern and western fringes of the WSA. Numerous special features were considered in development of the wilderness recommendation, including the presence of the desert tortoise. None of the WSA was recommended suitable for wilderness designation because of potential resource conflicts. The absence of physical barriers to limit incursions by OHVs into the WSA created manageability concerns that influenced this recommendation.

Meadow Valley Mountains WSA is comprised of 185,744 acres, located between the Delamar Mountains and the Mormon Mountains WSAs. A total of 88,564 acres are recommended for uses other than wilderness, due to manageability concerns primarily associated with off-road vehicle use. This eastern portion of the WSA, generally below the 3,200 foot contour, is characterized by a low desert shrub vegetative community. The 97,180 acre portion recommended for wilderness designation is characterized by more rugged topography and includes pinyon and juniper woodlands. Presence of the desert tortoise within the WSA was not identified as a special feature considered in developing the wilderness recommendation.

Mormon Mountains WSA consists of 162,887 acres of public land and encompasses the Mormon Mountains. Elevations range from 2,200 feet to 7,500 feet and include low-desert bajadas and rugged mountainous peaks and ridges. The desert tortoise, which occur on the bajadas in the southern, western and eastern flanks of the WSA, were among the special features considered in developing the wilderness recommendation. A total of 123,130 acres were recommended for wilderness designation, while 39,757 acres were recommended for uses other than wilderness. Excluded from the wilderness recommendation were the bajadas that comprise habitat for the desert tortoise. The recommendation was, in part, based on the potential difficulty associated with limiting off-road vehicle use across the bajadas. Other bajada areas, considered inaccessible to off-road vehicle use, were recommended for wilderness designation.

MINERAL RESOURCES

Fluid Minerals

Federally-owned minerals in the public domain are classified into specific categories. Fluid minerals are those being processed for their fluid material, either in the rocks or flowing through the rocks. Fluid minerals have been classified as a leasable mineral. Under current regulations, the following items are classified as fluid minerals: 1) oil and gas; 2) geothermal resources and associated by-products; and 3) oil shale, native asphalt, oil impregnated sands and any other material in which oil is recoverable only by special treatment after the deposit is mined or quarried. The leasing of these minerals is discretionary.

Oil and Gas

Few wells have been drilled in the planning area, with only one or two of the wells having oil and gas shows. Geophysical activity is continuing on a very occasional basis within the desert tortoise habitat. Based on the regional geology for the area, the U.S. Geological Survey published **Eastern Great Basin and Snake River Downwarp, Geology and Petroleum Resources** (Peterson 1988). This report presents information for developing oil and gas potential for the region and identifies two potential oil and gas plays for Eastern Nevada. A "play" refers to an exploration target that may have the potential for payable quantities of oil and gas.

The planning area is covered by portions of two plays; these are identified as the "unconformity play" and the "Upper Paleozoic play". The planning area is contained within the Upper Paleozoic play, characterized as a possible stratigraphic trap between interbedded shaly seals, independent of the reservoir rock. The rocks are almost entirely marine and contain good potential reservoir and source rock in most of the stratigraphic section. The extensive interbedding of source rock and reservoir rocks with shale formations could produce small oil and gas reservoirs in the play. This type of trap is producing oil in the Blackburn field in Pine Valley, Nevada. Conversely, the tectonic and igneous activities of the area may have destroyed these traps and the oil potentially contained within them.

The mountain regions of Nevada have not been drilled to the same extent as the valleys. Extensive interest has been expressed in the overthrust trap located in the northern portion of Lincoln County, outside of the planning area.

Based on indirect geological and geophysical evidence, the oil and gas potential for the planning area is evaluated as moderate in the valley bottoms and based on USGS data is prospectively valuable for fluid minerals. The mountainous regions have low potential, based on similar indirect evidence.

Geothermal Resources

Geothermal resources within Lincoln County are located to the north in the Pahrangat Valley, the Caliente area, and near Panaca (Garside, 1979). Geothermal resources are not known to occur within the desert tortoise habitat which comprises the planning area. The geologic history indicates faulting and igneous activity in the region but no geothermal resources have, to date, been identified. The potential for the occurrence of these resources in the planning area is low, based on indirect evidence. The temperatures of these springs and wells range from a high of 120 degrees in Caliente to a low of 70 degrees (Garside, 1979).

Solid Minerals

Minerals which are mined out of the ground and processed for the metallic or chemical nature of the rock are identified as solid minerals. These minerals have been divided by Congress into three groups: locatable, salable, and leasable minerals. Locatable minerals are those that have been described as "valuable mineral deposits". These include metallic minerals such as gold, silver, copper, lead, and nonmetallic minerals such as bentonite, gypsum, chemical grade limestone, and chemical grade silica sand. Uncommon varieties of mineral materials such as pumice, rock, and cinders are also managed as locatable minerals. Disposal of these minerals is not a discretionary action for the BLM.

Salable minerals are common minerals and mineral materials and include sand and gravel, sand, and common clays. These have been identified as minerals not designated as leasable and locatable. Disposal of these minerals is a discretionary action for BLM.

Non-energy leasable minerals are identified as specific minerals such as coal and phosphates. Leasable minerals are all minerals in specific locations, such as acquired lands and the Outer Continental Shelf. Disposal of these minerals is a discretionary action for the BLM.

Locatable Minerals

Within the planning area there are 68 mining claims located (BLM, 1997). Of these, there are 19 lode claims and 49 placer claims. No operating mines are located within the planning area. Several exploration operations have been conducted, but no production has been reported. Two mining districts, the Gourd Springs District

and the informal Tule Valley District, are located within the planning area (Tschanz, 1970). The Gourd Springs District has had very little historic production, most of which occurred during the 1920s. The district has two main deposits: the Amos Hunt manganese property and the Bruson tungsten property. The Hunt manganese shipped 60 tons of ore in 1929; no production has been reported for the Bruson (Tschanz, 1970). The district has occurrence of tin, beryllium, barite, and the material mined manganese and tungsten. The Tule Valley District has been identified for the occurrence of moderately thick sequences of gypsum. Two main deposits, White Queen and the Snowwhite, are found within the district. No production has been recorded for this district (Tschanz, 1970).



Other notable prospects in the planning area include the Whitmore Mine (copper); the Iron Blossom prospect (iron oxides); the Bradshaw (vanadium); and the Johnston and Fitchett (perlite and some zeolites). These prospects are located in the Mormon and Meadow Valley Mountains (Pampeyan, 1988 and Shawe, 1988). The Mormon Mountains are reported to have three mineralized areas: a southern zone which is enriched with lead and copper; an east-trending northern zone which contains lead, silver, and copper; and a west-central third zone with tungsten (Pampeyan, 1988). The locatable mineral potential for desert tortoise habitat and surrounding mountain ranges is identified as moderate, based on indirect geological and geophysical evidence.

Salable Minerals

Several types of salable minerals are found within the planning area. The most common is gravel that has resulted from alluvial and colluvial deposition. Other types of deposits include topsoil and decorative types of rock and sand. These salable minerals are widely distributed throughout the region. No major exploration is reported to be ongoing for salable minerals.

Deposits of sand, sand and gravel, rock, and topsoil of unknown volumes have been identified throughout the planning area. Production of salable minerals is currently limited to an area along U.S. Highway 93, just north of the Clark-Lincoln County line. Most of the material is being produced for use as highway material for the maintenance of U.S. Highway 93. There are 17 NDOT material site rights-of-way totalling about 320 acres within desert tortoise habitat. Large sand deposits are found south of Coyote Springs in small dunes along Highway 93. Deposits of other mineral materials in the East Mormon Mountains and the Meadow Valley Mountains have been identified but production has been limited. Liesegang banded rhyolite tuff is being produced in the Clover Mountains, outside of the planning area.

Production of mineral materials on private lands in Coyote Springs Valley has been increasing, with this material being sold to markets in Las Vegas. The planning area has a moderate to high potential for saleable materials, based on direct and indirect evidence for mineral material resources.

Solid Leasable Minerals

Solid leasable minerals in the planning area include potassium and phosphates associated with Pleistocene-age lakes. When these lakes evaporated, mineral salts were precipitated. A mineral occurrence for phosphates has been reported in the Mormon Mountains. The planning area is prospectively valuable for solid leasable minerals based on USGS data and is rated as having low potential for solid leasable mineral resources, based on indirect evidence.

FIRE MANAGEMENT

Surface-disturbing activities have altered the fire regime in the planning area. Where fire-resistant perennial shrubs were once abundant, exotic annual grasses, like red brome, now thrive. These exotic annuals provide a fuel source that encourages the spread of fire and increases the size of fires that occur in desert tortoise habitat (see discussion under *Ecological Site Inventory* in this chapter). From 1980 until 1992, 96 wildland fires were reported on public lands within the planning area, at an average rate of eight fires per year. These consumed an average of 582 acres per fire, for a total of 51,000 acres. Over 50 percent of the fires were caused by lightning.

Current BLM fire suppression strategy is to determine an appropriate level of suppression, as determined by safety factors and resource values at risk. Suppression tactics in desert tortoise habitat emphasize the minimization of vegetative losses and surface disturbance. Tactical determinations are made by the Incident Commander, in consultation with Resource Advisors.

ECONOMIC AND SOCIAL CONDITIONS

Because of the manner in which data is organized and made available, the affected environment, for purposes of economic and social analysis, must necessarily be defined to include all of Lincoln County. Analysis of potential effects in the next chapter must also be inferred from county-wide data.

Population and Area

Lincoln County, the third largest in the state, is rural and sparsely populated. With a total area of approximately 10,634 square miles, and an estimated 1996 population of 4,020 (State of Nevada, June, 1997), population density for the county is less than 0.4 persons per square mile. The county's population grew from 3,732 in 1980 to only 3,775 in 1990 (U.S. Bureau of the Census); an increase of only 43 persons. This represents a rate of growth of 1.2 percent, the lowest in the state. The largest population center in the county, and its only incorporated city, is Caliente, with a reported census population of 1,111 in 1990 and a 1996 population estimate of 1,110. The balance of the county's population is concentrated in the unincorporated towns of Alamo, Panaca, and Pioche.

Income and Employment

Historically, mining and agriculture have been the most constant and dependable economic activities in Lincoln County. These industries were the county's original and primary source of income and continue to play an important role in the county's economy today. Many residents view livestock grazing and mining as the solid, stable and dependable bedrock of the economic base. Their relative importance in the overall economic picture has, however, become less significant in recent years.

Table 3-7 shows earnings by place of work, and employment by major industrial sectors, for Lincoln County in 1995. Total personal income for the County, in 1995, is reported at \$72,004,000; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, and rent, and transfer payments. Earnings by place of work constituted \$54,356,000 of that total. Total employment is estimated at 2,038. The service industries are the single most important employers and income producers for the County, with government providing the second largest source of income and employment. Civilian employment by private firms providing contractual services to the Nevada Test Site and other Department of

Table 3-7 Lincoln County earning and employment for 1995.

INDUSTRIAL SECTOR	EARNINGS		EMPLOYMENT	
	\$000	% OF TOTAL	NUMBER OF JOBS	% OF TOTAL
Agriculture	1,866	3.4	149	7.3
Agriculture Services	78	0.1	15*	0.7
Mining	248	0.5	18	0.9
Construction	556	1.0	36	1.8
Manufacturing	55	0.1	10*	0.5
Transportation and Public Utilities	2,324	4.3	59	2.9
Wholesale and Retail Trade	2,992*	5.5	256*	12.6
Finance, Insurance, and Real Estate	650	1.2	59	2.9
Services	28,322*	52.1	832*	40.8
Government	17,265	31.8	604	29.6
TOTAL	54,356	100.0	2,038	100.0
*BLM estimates (Source: USDC, 1997)				

Defense activities explains the high incidence of service industry income and employment. Together, the service industries and government account for 83.9 percent of wage and salary income, and 70.4 percent of employment in Lincoln County.

The Lincoln County economy has been hard hit in recent years, largely due to reduced expenditures and employment in U.S. Department of Defense activities. County income from wages and salaries has declined from \$57.0 million, in 1991, to \$46.6 million in 1995; representing a total loss of income from employment of approximately \$10.4 million. The number of jobs in the County has declined, as well, from a reported 2,395 in 1990 to 2,038 in 1995; a decline of 357 jobs. The Nevada State Department of Employment, Training, and Rehabilitation reports that 300 Lincoln County residents lost jobs, since 1993, with the reduction of activities at the Nevada Test Site.

Lincoln County unemployment was reported for the first quarter of 1997 at 100 persons, for an unemployment rate of 9.3 percent. This compares with data for the first quarter of 1996 which indicates 160 people unemployed and an unemployment rate of 13.5 percent. This decline in the number of persons unemployed, and in the unemployment rate, however, does not indicate the occurrence of any positive economic influence in the County. But rather an outward migration of persons seeking work in other counties, and the possibility that a number of people have removed themselves from the available work force and, at least temporarily, have abandoned an active search for employment. Annual per capita income figures for 1995 show Lincoln County, at \$18,635, to be almost 24 percent below the average of \$24,361 for the state's 17 counties.

Economic Linkages

The economic structure of Lincoln County is not large enough to support a wide variety of businesses; therefore, businesses and residents must rely on other counties for a large portion of the goods and services that they require. Lincoln County has available raw natural resources such as public rangeland forage for livestock. Businesses and residents of other counties utilize these Lincoln County resources.

The Caliente-Panaca-Pioche area of Lincoln County is strongly linked to Iron and Washington Counties in Southwestern Utah. Cedar City in Iron County, and St. George in Washington County are regional trade centers where businesses and residents of Caliente, Panaca, and Pioche obtain goods and services unavailable in Lincoln County. Cattle ranchers obtain financing and purchase machinery, livestock, supplements, and fertilizers in Cedar City and St. George. Most of their calf sales are to Utah buyers. And, on the other hand, a large proportion of the public rangeland forage in the Caliente Field Station is purchased and utilized by cattle ranchers from Southwestern Utah.

The Federal Government represents a significant presence in the county, as illustrated by land ownership data. About 95 percent of the land area in Lincoln County, approximately 6,500,000 acres is under federal ownership. The Nellis Air Force Range and the Nevada Test Site represent the most visible presence of the Federal government in the county. However, resident interest and concern is directed toward federal management of the lands for livestock grazing, mining, wildlife and wild horse management, wilderness, and land tenure.

Social Setting, Attitude, and Values

Several analyses of Lincoln County social attitudes, expectations, and lifestyles have been conducted by BLM and other agencies during the land use planning processes and for environmental analyses. (e.g. BLM 1978, 1979, 1989, 1993) Conclusions drawn from those prior studies remain appropriate. The majority of Lincoln County residents are pleased with their communities and lifestyles, and are unamenable to outside influences in their lives. Residents strongly value quality educational opportunities for their children, family life, friendship, personal honesty, and trust. Personal independence, responsibility, and self-reliance are particularly prized virtues. Economic development, industrial growth, and community expansion are favored, but the emphasis is on moderation. Positive community attributes include such factors as (1) a good place to live and raise a family, (2) recreational opportunities, (3) and the quality of the physical environment. The lack of adequate hospital and medical care are principal concerns.

Social and political attitudes and expectations among county residents are generally conservative and modest. County residents typically appear to view each other as equals and in general do not discuss other residents in terms of social rank, racial, or ethnic origins. However, on an individual basis, those values having to do with origins, kinship, and religion are the common bond around which political and social influences coalesce.

The positive value placed on the small size of local communities; the positive aspects of a rural atmosphere; the appeal of clean air, and moderate weather; the easy access to outdoor recreation; the feeling of friendliness and sociability; the opportunities afforded of doing things as a family; and the belief in the natural order of things, particularly the belief that change will proceed modestly and gradually without altering the county's rural character, are the values that are consistently articulated by county residents. There prevails a very optimistic attitude toward the historical peak and valley employment patterns of the mining industry; area residents expect that the future will be "pretty much like the past," and many express hope for the possibility of further mineral development in the area as at least a partial solution to the county's economic and employment problems.

Generally, businessmen, professionals, and influential community leaders are politically oriented toward change, while ranchers are politically oriented toward preserving the status quo. Change is a value seldom expressed by the general public. Even among those in the county who favor change, change is often qualified in terms of "progress" that will preserve, or at least not upset, the natural order.

The ranching community cohesively exists as a single community that transcends the Nevada-Utah stateline. The economic and resource ties are strong, and they are part of the same religious community. For the ranching community, in general, ranching is seen as one of the few remaining ways of carrying on a family tradition where family members can all share meaningful work and responsibility. Ranching is perceived as a way of life that provides security and family stability, the opportunity to be self-sufficient, the opportunity to work out-of-doors, and the opportunity to be relatively free of outside supervision in their isolated work environment.

Generally, ranchers resent what they perceive to be excessive government regulation trends of the last 20 years, which they see as restrictive. Such initiatives are not perceived by the ranchers as being sufficiently elastic to permit management adaptations in response to various types of local conditions. In previous surveys, ranchers have strongly expressed their feeling that they cannot influence local BLM Field Office planning decisions, since they feel that interpretation of the law and planning decision guidance is provided by the Washington BLM staff without regard to local conditions or local perspectives and experience.

Ranchers view market prices for ranches in the area as strongly related to the relative mix of public and private lands of which a ranch is composed; any withdrawal of preferences on public lands from that mix can have serious and immediate implications for both the ranching community and the financial institutions which support that community. They feel that the ranching industry has been severely limited in recent years by ever-increasing governmental intervention, drought, and tight cost-price ratios in the national cattle market. In the national market, they view themselves as "price takers" rather than "price setters."

Ranchers also feel that the constant turnover of BLM personnel does not serve their best interests. They perceive the lack of continuity created by new personnel as having a deleterious effect on communication and understandings that have been developed, and in BLM efforts as they apply to local circumstances and conditions. In an industry where long-term planning is considered essential, they feel that the frequent changeover of BLM personnel deprives the ranching community of consistency in interpretation and application of Bureau regulations and policies as they might apply to the local region.

The above views, coupled with the ranching community's philosophical opposition to both government intervention in the industry and continued federal ownership of "Nevada lands," tends to sustain the potential for conflict between the Bureau and the community. Lincoln County residents and elected officials have consistently voiced opposition to proposed Land Tenure Adjustments that would result in either loss of tax revenue to the County, or loss of development opportunities.

Clark County Habitat Conservation Plan

In July 1995, Clark County entered into an agreement with the U.S. Fish and Wildlife Service, and other Federal, State, and municipal agencies (including the Bureau of Land Management), for a Desert Tortoise Habitat Conservation Plan (HCP). The purpose of this HCP is to establish rules, policies, and procedures which permit continued development in Clark County while providing extensive measures to minimize and mitigate the impacts which might result from the incidental taking of desert tortoise.

This HCP imposes a \$550 per acre mitigation fee on all land disturbed within Clark County below 5,000 feet in elevation, which is subject to permitting requirements of Clark County and the cooperating municipalities.

These fees provide a fund for mitigation of impacts upon desert tortoise habitat. The HCP further provides for Clark County to negotiate with individuals for the purchase and exchange of grazing privileges to offset developed land and to achieve conservation objectives.

The land area included for purchase and exchange of grazing privileges is not confined to the boundaries of Clark County, but is stipulated as, "within DWMAs," or Desert Wildlife Management Areas, as proposed in the USFWS, Recovery Plan, dated June 1994.

Affected Sectors

Livestock-oriented agriculture and mining are the major basic industries to be affected by management proposals to recover and delist the desert tortoise. Affected resources will include lands, corridors, and recreation.

Agriculture

Agricultural production in Lincoln County consists of cattle, sheep, alfalfa, and hay. Cash receipts from marketings in 1995 totaled \$8,526,000, with \$2,516,000 from livestock and livestock products, and \$6,010,000 from crops. Total farm labor and proprietors' income is estimated at \$2,183,171.

Agriculture accounts for an estimated 3.4 percent of income in the county, but provides approximately 7.3 percent of county employment. However, agriculture contributes little indirect income to the county because most of the farm and ranch inputs are purchased outside of the county, in Cedar City and St. George, Utah. Wages and perquisites for farm labor are estimated at \$913,000, and total net farm proprietors' income is estimated at \$919,000 for 1995. Though not of major significance in the economy, cattle ranching is perceived by many county residents to be the bedrock of the economic base; and the viability and success of the industry remains tied to the public lands. Lincoln County assesses a tax on livestock at the rate of 28 cents per head, per year, for beef cattle, 75 cents for horses and 30 cents for sheep.

Livestock operators have been authorized 116,763 AUMs within the lands administered by the Caliente Field Station, with a total of 48,453 AUMs authorized within allotments containing desert tortoise habitat. This accounts for approximately 42 percent of the total AUMs within the Caliente Field Station. There are 37 permittees in the planning area, with 29 active and 8 inactive. Of the 29 active permittees, dependency upon the public lands ranges from 12 percent to 100 percent.

Nineteen of the 25 grazing allotments within the planning area are actively grazed at the present time. All but four are land-based properties. Because of the broad ranging variability and the small number of operations in the area, the seasonality of forage, and the high dependency upon ephemeral-perennial range, typical ranch budgets could not be developed. However, net ranch income is estimated at \$4.50 per AUM. This estimate is based on previous ranch budgets estimated for the Proposed Las Vegas Resource Management Plan and Final Environmental Statement (BLM, 1998), the Esmeralda-Southern Nye Planning Area Resource Management Plan and Environmental Impact Statement (BLM, 1984), and Potential Impacts of MX Deployment on Ranch Management and Ranch Economics, prepared by Resource Concepts, Inc. (1980), under contract to the United States Air Force. Net ranch income is calculated by deducting cash costs and depreciation from sales (gross income). The remaining revenue (net ranch income) is available to service long-term debt on land and capital, to provide income to family labor, and to provide a return to risk and management.

Historically, the economic benefits derived by area ranchers from the use of public range have exceeded the fees they are charged. The existence of this market imbalance, or "consumer surplus" has meant that ranchers are willing to pay extra for the opportunity to use public lands, thereby causing the grazing permits to acquire a

market value (Vale, 1979; Neilson and Workman, 1971). The permits can be bought or sold in the market place, or used as collateral for loans (Corbett, 1978). Although not officially recognized as real property, BLM permits have nonetheless become an integral element in the capital and credit structure of area ranchers. Currently, the market value of federal AUMs ranges from \$25 to \$60 per AUM. Recent appraisals in southern Lincoln County, by Pacific Agribusiness Service for the Clark County Habitat Conservation Plan, have estimated the AUM values for several of these operations to range from \$45 to \$54 per AUM. This appraisal takes into consideration the existence of range improvements, and averages about \$50 per AUM. Assuming an average market value of \$50 per AUM, BLM grazing privileges, which total 48,453 AUMs in the affected area, contribute \$2,422,650 to the wealth of area ranchers.

Mining

At the present time, mining is of very low economic significance in Lincoln County. In 1995, mining provided less than 1 percent of the county's income and employment. Earnings for 1995 are reported at \$248,000, or 0.5 percent of the county's total earnings. Mining employment provided a reported 18 jobs, or 0.9 percent of the county's total employment. Since Lincoln County is seeking growth and development opportunities and an expanded income base, there is concern that placing additional encumbrances on mineral exploration and production represents economic opportunities foregone.

Formerly, mining represented a significant economic activity in the County. The largest mining operation in recent years was the Tempiute Mine, which reopened in 1977, but closed several years ago. This operation employed 185 workers. The Bunker Hill Mine, near Pioche, produced silver, lead, and zinc until March 1978, when low zinc prices forced it to close. A payroll of \$150,000 per month, and employment for 110 workers was lost.

Lands

Payments in Lieu of Taxes to Lincoln County amounted to \$186,950 in 1994. The 10-year average, at that time, was \$180,331.

Corridors

The Planning Area has three established major power and communication transmission corridors as proposed in the Western Regional Corridor Study prepared by the Western Utility Group in 1986. These corridors total about 50 miles. Two of the three routes have existing major transmission facilities: a natural gas pipeline, 260 kV and 500 kV power transmission lines, and a fibre optic line. The third route is encumbered with a right-of-way that has been granted for a 500 kV power transmission line which is yet to be constructed. Construction costs for these types of facilities range from \$250,000 to \$1,500,000 per mile. Although it is likely that construction materials and a skilled workforce will be brought in from outside the area, Lincoln County would realize a short-term economic benefit from local spending of the workforce and any incidental construction materials or equipment that might be locally purchased.

The establishment of these corridors was designed to enable more efficient and cost effective planning for future energy, communication and transportation facilities. A lack of designated corridors sustains high planning costs because of the number of alternatives that must be considered, and results in longer processing time for right-of-way applications. Designating the DWMAs/ACECs as avoidance areas, or requiring Section 7 consultation with the U.S. Fish and Wildlife Service, could affect the efficiency of planning for proposed facilities. Additional planning and construction costs to utility companies and longer processing time to review the viability of rights-of-way applications could result.

The proponent of the Southwest Intertie Project, a 500 kV power transmission line, estimates that Lincoln County would realize annual property tax revenues of \$4,935 per mile.

Recreation

Expenditures for recreation in the planning area contribute to the regional economy through the purchase of lodging, services, equipment, fuel, and food. With an estimated 1000 to 2000 visitor days of recreation activities occurring in the planning area, recreation related expenditures are estimated at \$50,000 per year.

During the past 5 years, different OHV events, totaling five events on as many courses, have been permitted by BLM, averaging one event per year. These events originate primarily in Clark County, and provide little economic benefit in either jobs or income to Lincoln County.

Section 7 Consultation Costs

Section 7 of the Endangered Species Act of 1973 requires federal agencies to consult with the USFWS on actions that may jeopardize a threatened or endangered species, or destroy or adversely modify critical habitat.

Section 7 directs agencies to submit to the USFWS a complete description of any proposed action and the anticipated effects (biological assessment). The USFWS then has up to 135 days (with an additional 60 day extension, when necessary) to review the proposal and prepare a biological opinion which may enable the project to go forward and, in some cases, provide for incidental take of the subject species, while providing certain conditions of operation, or modification of plans, or means to mitigate adverse effects.

Private individuals, companies, or corporations are frequently the proponents of projects or proposals to utilize the public lands; such as minerals developments, land exchanges or transfers, utility corridors, etc. While it is the responsibility of the federal agency initiating the proposed action to prepare the description of the action and the anticipated effects (the biological assessment), oftentimes the Bureau of Land Management does not have sufficient staff or funding to process a private party request in a sufficiently timely manner to meet the needs of the project proponent. In such cases, the project proponent may prepare the biological assessment, under BLMs direction, in order to facilitate initiation of the required consultation and expedite project scheduling.

These documents may be quite simple or very complex, depending upon the nature and extent of the proposed public land use and the species involved. Private individuals sometimes hire a consultant, or consult an attorney, to shepherd them through the process. Large companies, or corporations, often employ an Environmental Coordinator, or a Project Manager on a permanent full-time basis for just these types of activities. If the proposed project is quite extensive, a third-party Environmental consulting firm may be employed to undertake the necessary studies and documentation.

The costs of Section 7 consultation may be quite variable. Cost factors would include the nature of the project, the biological requirements of the species, the extent of analytical detail required, and the time and expertise employed in preparation of the analysis and documentation. Additional costs could result in the event that additional mitigation measures might be required to ameliorate potential effects on the species; and from any delays imposed on the initiation of project development.

At the present time Section 7 consultation is required throughout the area covered by this Plan Amendment. The establishment of a framework for land-use proposals and management decisions, which is the purpose of this Amendment, will provide sufficient guidelines to effectively focus potential land-use proposals and ameliorate or reduce Section 7 consultation and mitigation costs.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects that impact low income and minority populations as a result of Federal programs, policies, or activities. Demographic analysis comprises the first step in determining disproportionately high and adverse human health or environmental effects on low income and minority populations. Such analysis includes defining the region of influence, census block groups, low-income populations, minority communities, and the thresholds for calculating a low-income or minority community census block group (USDOE, pg. 4-223, 1996). To identify minority communities, the four racial classifications recognized by the U.S. Bureau of the Census are used. These are (1) white, (2) black, (3) American Indian, Eskimo, or Aleut, and (4) Asian or Pacific Islander. Hispanic is considered to be an origin, rather than a racial classification by the U.S. Bureau of the Census.

The Proposed Action and alternatives provide management actions for public lands located in Lincoln County; the county comprises the region of influence for this Draft Plan Amendment/EIS. Census block groups are defined as clusters of blocks within the same census tract. The census block groups do not cross county or census tract boundaries and generally are comprised of between 250 and 550 housing units (U.S. Bureau of the Census, 1993; USDOE, pg. 4-223, 1996). For analytic purposes, low income populations are defined as individuals living within a census block group whose income is below the poverty level. Households are classified as being below the poverty level if the total family income or unrelated individual income is less than the poverty threshold specified for the applicable family size (Ibid). As an example, the weighted average threshold for a 4-person family was \$12,674 for the 1990 census (U.S. Bureau of the Census 1994). Percentages of low-income and minority communities can be calculated within each census block group, using thresholds developed to avoid biasing the designation of poverty areas.

According to recent demographic analyses conducted for the U.S. Department of Energy, Lincoln County contains eight census block groups. No census block groups in the county have low income or minority communities, as defined by the U.S. Bureau of the Census classifications and thresholds described above (USDOE, pg. 4-223, 1996).

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter analyzes the anticipated physical, biological, social, and economic consequences of implementing the Proposed Action or the alternatives described in **Chapter 2**. The discussion of the environmental consequences is in proportion to the significance of the anticipated impacts. The following are not present or would not be impacted by the implementation of the Proposed Action or the alternatives: Air Quality; Cultural or Paleontological Resources; Farm Lands (prime or unique); Floodplains; Wilderness values; Wild and Scenic Rivers; Native American Religious Concerns or Traditional Lifeways Values; Hazardous or Solid Wastes; or Environmental Justice issues.

The baseline for comparing impacts is Alternative C (No Action Alternative), which represents a continuation of the existing management situation. Impacts identified are those that could be expected to occur within 25 years, if no changes occur in the current management guidelines. The impacts associated with the implementation of the Proposed Action or alternatives are compared to this baseline. The analysis of environmental consequences includes identification and discussion of direct and indirect impacts. Cumulative impacts are also analyzed in this chapter. Impacts were analyzed for each of the following resources or management programs: special management areas such as ACECs or DWMA's; special status species and wildlife habitat; soils and water resources; riparian areas; forestry and vegetative products; livestock grazing; wild horses and burros; lands; recreation; minerals; fire management; and socio-economic values. An interdisciplinary approach was used to analyze the environmental consequences. Only those resources determined to be impacted are included in the following sections.

ASSUMPTIONS FOR ANALYSIS

The following assumptions underlie the analysis:

Funding and staffing will be adequate to fully implement all management actions associated with each alternative.

As desert tortoise habitat is improved, tortoise populations will manifest upward trends.

Regional human demographic trends will continue at current rates over the life of the plan.

Local governments/municipalities within the planning area will require additional lands for community growth and public purpose development.

Power, communication, and petroleum product transmission and distribution needs will increase in the future.

The Federal Communication Commission (FCC) will make more frequencies available to industry; more communication site locations will be required.

Recreational use of the desert environment will continue to grow as a direct result of the increase in human populations and the increase in sales and use of OHVs.

Based on available precipitation data, it is assumed that 3 inches of annual precipitation would occur in 7 out of 10 years within the Planning Area (Alternative A).

The BLM's full force and effect decisions implementing the biological opinion for livestock grazing in desert tortoise habitat will be upheld in District Court.

Livestock operators will be able to manage their livestock through a variety of techniques including fencing, herding, and salt and water placement, so that grazing will not occur within the special management area boundaries.

Permittees who receive compensation for closure of their allotments to livestock grazing will be compensated only for those portions of their allotment inside the special management areas.

Areas proposed to be withdrawn from mineral entry will occur timely and will be approved by Congress.

Section 7 funds will be available to aid in implementation of management actions.

One DLE may prove to have adequate soil suitability, availability of sufficient water for irrigation, sufficient arable land for production, and adequate financial and material (equipment) resources to successfully be developed in the planning area of the No Action Alternative.

INCOMPLETE AND/OR UNAVAILABLE INFORMATION

Introduction

The Code of Federal Regulations at 43 CFR 1502.22 mandates that agencies evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement must identify incomplete or unavailable information. Information is currently incomplete from the planning area for the following issues: precise desert tortoise population numbers and absolute trends; specific quantitative information on the effects of livestock grazing on desert tortoise; the indirect effects of OHV use; the magnitude of direct effects of casual OHV use of existing roads and trails; and the potential for recovery of native plant communities with the removal of grazing. Information is also incomplete in regard to future management of the California portion of the Northeastern Mojave Recovery Unit, and on the past impact of radioactive fallout within the Recovery Unit. These are discussed below.

Desert Tortoise Population Numbers and Trends

Precise numbers of tortoise are unknown to the BLM, NDOW and the USFWS, and population information reflecting absolute trend is incomplete, however, population estimates and information on the status of tortoise populations is presented in Chapter 3.

According to the Recovery Plan, "Our analysis indicates that areas receiving summer rains and are relatively free from human-induced mortality show no statistically significant population trend..." (USFWS, p. C8, 1994a) and "Because of the difficulty in obtaining accurate population size estimates on these cryptic, semi-fossorial, and sparse animals, most data collected over the last 15 years on the dynamics of desert tortoise populations are insufficient to determine whether a population is stationary, fluctuating stochastically, or undergoing a population trend" (USFWS, p. C8, 1994a).

Monitoring has, however, demonstrated concerns with population trends and recruitment of young into the population in some areas. Some researchers warn that although populations in the Northeastern Mojave Recovery Unit do not appear to be undergoing major changes in numbers or density in most places, population levels are

dangerously low (Brussard 1994, written communication). The lack of exact population numbers or trend information from all portions of the Northeastern Mojave Recovery Unit is not an impediment to implementation of the goals and objectives of the Recovery Plan.

Effects of Livestock Grazing on Desert Tortoise

It is known that tortoise rely on new spring growth once they emerge from their burrows, and that livestock use decreases both the quantity and quality of this growth. It is also known, and recent ongoing research continues to show, that native perennial herbaceous forage species are very important to desert tortoise nutrition and reproduction. Much of the Mojave Desert vegetation communities have been impacted by historic grazing to the point that many of these important native plant species occur in greatly reduced abundance or are non-existent in the present communities. According to the 1988 BLM Rangeland Plan, livestock grazing is one of the detrimental impacts to tortoise in the Eastern Mojave. Since 1988, there have been studies showing the negative impacts of grazing on desert tortoise and its habitat (see Chapter 3).

According to the 1988 BLM Rangeland Plan, there are some data gaps which include site specific quantitative data on the effects of grazing on tortoise populations and habitats.

According to the federal register announcement designating critical habitat for the desert tortoise, "Although no definitive studies on the relation between livestock grazing and the welfare of desert tortoises have yet been completed there is significant amount of scientific literature on the adverse effects of livestock grazing on desert ecosystems, in terms of vegetation changes, soil compaction and erosion, and reduction of microorganisms in the soil." (USFWS, p. 5839, 1994)

There are differing opinions regarding whether livestock impact desert tortoise. Here are three examples:

1. "Scientifically based information on the interactions between the desert tortoise and livestock grazing is currently limited and inconclusive. There is not substantiating information on whether the elimination of grazing will in fact assist in the recovery of this species. Moreover, no information has been presented that indicates properly managed grazing (designed to maintain or improve current ecological status) has an adverse effect on the desert tortoise or its habitat." (Resource Concepts Incorporated, unpublished report, p. 7-Findings, 1996)
2. According to the Arizona Strip 1996 Proposed RMP Amendment to implement the Recovery Plan; the effects of cattle grazing on desert tortoises and their habitats have been studied since the late 1970s, but information is still lacking.
3. Mr. Rey Flake noted at the January 26, 1996 meeting of the Legislative Committee on Public Lands that the Lincoln County Public Lands Commission had met with the BLM, and the BLM could not provide scientific proof that livestock are harmful to desert tortoise. Minutes of this Legislative Committee meeting also show that according to BLM desert tortoise expert Mr. Sid Slone of the Las Vegas Field Office, "Based on current data, the position of the BLM is that livestock grazing has an impact on desert tortoise." (Minutes of the Legislative Committee on Public Lands, p. 12, 1996).

A project proposal, (Oldemeyer, p. 95, 1994), submitted for approval and to attain funding states: "Experimental information to assess the effect of livestock grazing on tortoises is lacking, and researchers have not yet examined whether the forage that remains after grazing is sufficient to meet the nutritional needs of desert tortoise." (Oldemeyer, p. 95, 1994) Several studies since 1994 have focused on the nutritional requirements of

desert tortoise, the relationship of native herbaceous species to meeting these needs, and amounts and types of forages important to desert tortoise (See Chapter 3).

While there are some differences of opinion regarding impacts of livestock grazing on desert tortoise, conclusions drawn by professionals in the USFWS, BLM, University scientists, and the Recovery Team for The Desert Tortoise indicate that livestock grazing can have a number of negative impacts on desert tortoise and their habitat as described in the Recovery Plan and in this plan. The preponderance of scientific evidence indicates that livestock grazing can have a number of different negative impacts to tortoise and its habitat. See Chapter 3 of this Plan Amendment for a discussion of the credible scientific data on desert tortoise biology and habitat needs. The Recovery Plan advised that livestock grazing should be prohibited in special management areas established for desert tortoise recovery.

The impact-link between livestock and tortoise was established through a thorough review of available scientific information and professional judgment rather than a definitive study since, "Studies designed to detect this linkage (between grazing and species declines) are, inter alia, logistically difficult, expensive, politically contentious, and statistically indefensible. On the other hand, there is strong circumstantial evidence that grazing is a major problem" (Carrier and Czech, p. 39, 1996). See Chapter 3 of this Plan Amendment, and response to public comment 18.14 for a discussion of the credible scientific data on desert tortoise biology and habitat needs.

Indirect Effects of OHV Use

The indirect effects caused by noise, vibration, and dust, from OHV use is unknown. These indirect effects of OHV will be evaluated in the future through a monitoring plan.

Direct Effects of Casual OHV Use of Existing Roads and Trails

Use of existing roads and trails by casual OHV users could result in some direct mortalities of desert tortoise. The extent of this impact is not known and would depend on a number of factors including density of the tortoise population, traffic volume, season of travel and speed of the traffic. It is recognized in this EIS that relatively low levels of casual OHV use occur within the Planning Area.

Potential for Recovery of Native Plant Communities

Reduction in native plant communities as part of the vegetative composition in the Northeastern Mojave Recovery Unit has occurred over the last 100+ years. While the viability of perennial plant communities would benefit from the partial or total removal of grazing, there is professional disagreement as to what extent and how quickly the native plant communities would recover. The results of a spring 1997 Ely Field Office ecological status inventory study of critical desert tortoise habitat within the planning area predicted that change to a dominance of native perennial plants after removal of grazing would probably not occur during the life of this plan (25 years), but could occur within portions of the Recovery Unit in the future. See "Ecological Status" in Chapter three.

Management of Desert Tortoise Habitat in the California Portion of the Northeastern Mojave Recovery Unit

The Mojave National Preserve, administered by the National Park Service in California, is currently undertaking a planning effort which includes a small portion of desert tortoise habitat within the Northeastern Mojave Recovery Unit. Since this planning is only beginning (public scoping meetings were held in April 1997), documentation on future management for this tortoise habitat within the Northeastern Mojave Recovery Unit in California is

lacking. However, only a small portion of the Northeastern Mojave Recovery Unit is located in California and, because of their mandate, the National Park Service would manage for ecosystem integrity. This specific information, therefore, is not essential to a reasoned choice among alternatives and the decision on how to implement the goals and objectives of the Recovery Plan within the Planning Area.

Impact of Radioactive Fallout

The effect, if any, of the historic nuclear testing on the "downwind" tortoise population has not been evaluated outside of the Nevada Test Site and is not understood. It may have been a contributing factor to population declines and/or age structure anomalies in some areas. While this information is lacking, it is not deemed essential to the analysis.

Conclusion

Since the desert tortoise has been listed as threatened by the USFWS, the mandate of the BLM is to help recover the species. While there are a number of subject areas for which there is less than 100% complete information, there is enough information to allow for a reasoned choice among alternatives. The cost of waiting to proceed with implementation of the Desert Tortoise Recovery Plan until more complete information was available has been considered. It was determined, however, that delaying implementation of the Recovery Plan could prove detrimental to the survival of the desert tortoise within the Northeastern Mojave Recovery Unit. Also, see response to public comment 17.11 on incomplete and unavailable information.

REASONABLY FORESEEABLE MINERAL DEVELOPMENT SCENARIOS

The following projections of future minerals activities were developed in order to identify and analyze impacts associated with minerals development in desert tortoise habitat.

Locatable Minerals

Exploration would continue at the present rate of between eight to ten operations per year for all types of locatable minerals. Operations would consist of small exploration projects that would comprise drilling operations. Surface disturbance would affect an average of 5 acres per project; a total of 50 acres of surface disturbance could be projected per year. Reclamation could require up to 25 years for native vegetation to reestablish. Such operations would be located throughout desert tortoise habitat. A small mining operation may occur for gypsum, located in the East Mormon Mountains or the Tule Springs Hills and would be projected to total approximately 75 acres in size.

Fluid Minerals

Initial geophysical surveys may be widespread throughout desert tortoise habitat, in an effort to analyze the regional geology. When geologic structures of interest have been located, intensive, repetitive surveys of specific areas could be anticipated. Between 25 and 50 miles of seismic line could be surveyed per year, disturbing up to 50 acres during that period. Disturbance would be typified by crushed vegetation and some soil compaction. Initial reclamation of these lines, either by natural recovery or efforts undertaken by the proponent, would be completed by year's end.

Based on prior drilling patterns, most of the drilling will occur in valley bottoms. Oil discoveries in Nevada, to date, have been exclusively in valley bottoms, although oil companies are currently also exploring mountainous regions for overthrust plays. Drilling has been sporadic in desert tortoise habitat. It is estimated that one well

may be drilled every other year. The operation would disturb approximately 5 acres, including access requirements. The drill pad and access route would require 25 years or more to be reclaimed, either through natural recovery or efforts undertaken by the proponent.

For analysis purposes, it is estimated that one producing oil and gas field would occur within desert tortoise habitat. The average size of a producing field is 640 acres. Operations within the field would include maintenance of the production facilities and transportation of the oil and gas off site. Assuming that the field would be a small gas field, such as at the Kate Springs field in Railroad Valley, Nevada, a total of 114 acres of disturbance could be projected; surface disturbance would be related to the construction of well pads, service roads, pipelines, and gravel pits.

Mineral Materials

Mineral activity would continue and is expected to increase. Mineral material activity would remain concentrated along U.S. Highway 93 and would provide materials for the maintenance of that highway. The Nevada Department of Transportation (NDOT) will continue to hold 17 material site rights-of-way. Mineral materials for road maintenance are also needed by Lincoln County Road Department. There are six Free Use Permits proposed within the ACECs.

Sales of mineral materials to the public are expected to increase in the future. The demand for sand and gravel in the metropolitan Las Vegas area could stimulate sales of materials in Lincoln County. These actions would be only allowed outside ACECs. We expect one pit per year to be established. Each pit would total approximately 5 acres in size; reclamation would be ongoing during the life of the pit. An estimated 25 years or more would be required to complete reclamation. NDOT Rights-of-Way and Free Use Permits will be allowed in the one-mile wide corridor for maintenance of designated Federal, State and County maintained roads. All pits in desert tortoise habitat that are not community or NDOT pits would be closed and fully reclaimed. There would be an expected 500 acres of disturbance over the 25 years of this plan.

Non-energy Leasable Materials

No known exploration activity for non-energy leasable minerals has occurred in the planning area. Such activity would be limited to the valley bottoms. During the 25 year period of desert tortoise recovery activities, one exploration prospecting permit could be issued. The operation would be for drilling and could disturb an estimated 20 acres; no production would be expected to occur.

PROPOSED ACTION (BLM Preferred Alternative)

This proposal contains four major components: 1) designation of three ACECs with associated management prescriptions; 2) management prescriptions inside and outside of ACECs; 3) participation in USFWS developed and implemented environmental education programs; and 4) implementation of a USFWS approved interagency monitoring program (Distance Sampling). Three ACECs would be designated and managed primarily for the recovery of the desert tortoise population. These ACECs would encompass 212,500 acres and approximately 83 percent (203,700 of the 244,900 acres) of the critical habitat designated by the USFWS for desert tortoise in Lincoln County (refer to Maps 2-2 and 2-3).

Section 7 consultation on any federal action that may affect listed species would continue to be completed prior to the issuance of surface-disturbing land use authorizations. Other management constraints, including IMP for Wilderness Study Areas, could limit the scope and intensity of impacts related to surface disturbance.

SPECIAL STATUS ANIMAL SPECIES

From Special Management Areas

Within ACECs

Designation of ACECs would directly benefit the threatened desert tortoise, assisting the recovery and delisting of the species in the Northeastern Mojave Recovery Unit. Approximately 212,500 acres would be included within three ACECs and managed primarily for the recovery of the desert tortoise. Eighty-three percent (203,700 acres) of the designated critical habitat, considered by the USFWS to be essential for the conservation of the species, would be afforded the special protection of ACEC management prescriptions. This acreage also contains the highest densities of tortoise within the planning area. Current tortoise population densities within proposed ACECs are depicted in Table 4-1; these data have been collected from the Coyote Springs and Sand Hollow permanent study plots and strip transects, located in the planning area. Conflicting land uses would be eliminated, limited and/or mitigated, reducing both direct and indirect impacts on tortoise habitat. The prescriptions proposed for management of the ACECs would improve tortoise habitat and would encourage upward tortoise population trends over the life of the plan. At this time it cannot be determined how many years it would take for the habitat to improve to a point that would be of greatest benefit to the tortoise. Improvement of tortoise habitat would be at a rate similar to Alternative B and faster than Alternatives A. In addition, there is better connectivity of the ACECs between the adjoining planning areas and 31% more of the designated critical desert tortoise habitat protected in this alternative over Alternative B.

Management direction outlined for the ACECs would also have positive effects on the banded gila monster, chuckwalla, and other sensitive species. The establishment of Experimental Management Zones within the ACECs and the issuance of scientific research permits would provide research opportunities for several species. Mitigation measures developed during the preparation of management and activity plans would help to minimize conflicts with recovery objectives. Desert tortoise and other wildlife species could experience reductions in mortalities if tortoise-proof fences and crossing culverts along U.S. Highway 93 were installed.

Coordination with USFWS, U.S. Department of Agriculture's Wildlife Service, and the NDOW for control of ravens, coyotes, and other desert tortoise predators when necessary could substantially enhance recovery efforts, since predation is considered to be an important cause of tortoise mortality (Berry



1986, written communication Brussard 1994). Such actions would include periodic raven, coyote or other predator control programs, conducted within the ACECs to reduce the numbers of predators. The implementation of raven control programs alone could reduce the mortality rates among hatchlings and juveniles by as much as 85 percent in some parts of their range. (Berry 1988).

Table 4-1. Proposed ACECs with acreage and estimated current tortoise populations.

ACEC NAME	ACRES	EST. TORTOISE NUMBERS PER SQ. MILE	EST. TORTOISE POPULATIONS
Kane Springs ACEC	65,900	25 - 75	2,575 - 7,723
Mormon Mesa ACEC	109,700	10 - 20	1,716 - 3,431
Beaver Dam Slope ACEC	36,900	5 - 15	288 - 864
ACEC Totals	212,500		4,579 - 12,018

A higher recruitment rate of juveniles into the tortoise reproductive population would help to achieve upward trends in tortoise populations over the life of the plan.

Participation in a USFWS developed environmental education program could increase public awareness of the Mojave Desert ecosystem and the effects of human activities in arid lands. Desert tortoises and other species could experience reduced rates of human-caused mortalities (e.g. gunshots, vehicular crushing) as a result of a public education effort. Illegal collection of desert tortoises would also be reduced by increased public awareness and law enforcement.

A USFWS approved interagency (NDOW, Nevada National Heritage Program, BRD, and MOG) monitoring program (Distance Sampling) would be implemented in order to assess the effectiveness of the management actions proposed under this alternative. This program could provide additional data concerning desert tortoise population trends, causes of desert tortoise mortalities, and identify other factors important to the success of the recovery efforts. Such information could be used to support future modifications in the management direction of land use plans.

Outside of ACECs

The mitigation of land uses outside of ACECs would reduce the impacts on the tortoise and reduce habitat destruction or fragmentation on approximately 542,100 acres. Public education through road signing could reduce impacts related to human activities in habitat outside of ACECs. Tortoise populations in these areas could, at most, be maintained at current levels with some potential for decline.

From Forestry and Vegetation Products Management

Within ACECs

By not authorizing commercial desert vegetation harvest (seed and/or plants) within ACECs, mature plant species would remain to provide thermal cover and forage for the tortoise within 212,500 acres of habitat. The total annual production of seeds would be allowed to disseminate and germinate, helping to ensure that native plant species continue to be present within the plant communities.

Outside of ACECs

Outside of ACECs, the impacts of commercial desert vegetation harvest (seed and/or plant) and desert plant salvage/harvest for education or scientific purposes would be mitigated through stipulations attached to the permit. Such mitigation like no travel off of designated roads or no use of mechanical means would minimize any effects on the desert tortoise and its habitat during these activities.

From Livestock Grazing Management

Within ACECs

Under this alternative, approximately 212,500 acres of desert tortoise habitat would be closed to livestock grazing, and 5,658 AUMs eliminated, benefitting the desert tortoise in the short and long term. Competition with domestic livestock would be eliminated, providing a greater amount of quality forage for the desert tortoise. Fewer tortoises would experience malnutrition and possibly reduced occurrences of osteoporosis. Improved nutrition could reduce the susceptibility of individual tortoises to diseases, including the Upper Respiratory Tract Disease which currently impacts many wild tortoises in all age classes.

In the long term, the elimination of livestock grazing should improve the tortoise habitat. However, at this time it cannot be determined how many years it would take for the habitat to improve to a point that would be of benefit to the tortoise. At this time, it cannot be determined how many years it would take for habitat to improve to a point that would be of greatest benefit to the tortoise. Improvement, however, would be at a rate similar to Alternative B and faster than Alternatives A and No Action. As native species gradually become part of the vegetative communities, tortoises would benefit from better quality forage and habitat conditions. The above-ground biomass of perennial grasses and forbs would increase, providing thermal and protective cover for hatchlings and juvenile tortoises. With improved cover, juvenile tortoises would be less susceptible to predation. Tortoises and their burrows would also be protected from trampling by livestock. This is particularly important in areas where sheep are grazed, since trampling of tortoises or burrows in California has been shown to be a contributing factor in tortoise mortalities (Nicholson and Humphreys 1981).

Outside of ACECs

Allotments or portions of allotments outside of ACECs would be managed according to seasonal utilization limits of 40 percent on key perennial grasses and shrubs (March 15 to October 15), 50 percent on key forbs, perennial grasses, and 45 percent on key shrubs and perennial forbs (October 15 to March 15) of annual growth. This limitation should maintain plant communities at their



current seral stage. Possible negative impacts to tortoise, such as trampling and competition for forage, could continue on the 542,100 acres outside the ACECs.

From Wild Horse and Burro Management

Within ACECs

Desert tortoise habitat would benefit from the management of the Mormon Mountains HA for zero horses and burros and the removal of animals which establish home ranges within the Mormon Mesa ACEC. Increased forage and cover would be available for tortoise and the possibility of trampling would be eliminated. Since the Mormon Mountains HA contains a relatively small wild horse herd (approximately 15 animals), the anticipated benefits to desert tortoise habitat within the Mormon Mesa ACEC would be minimal.

Outside of ACECs

The Meadow Valley Mountains and Blue Nose Peak HMAs would be managed at the established appropriate management levels; current wild horse and burro populations in these HMAs total less than 75 animals. Wild horse and burro use would continue in desert tortoise habitat, but with seasonal utilization limits. By limiting maximum utilization levels on key perennial species, plant communities would be maintained at current status, with some potential for improvement. Possible impacts to tortoise, such as trampling and competition for forage, could continue.

From Lands Management

Land Use Authorizations

Within ACECs

Discretionary land uses that result in surface disturbances would not be authorized within ACECs, thus minimizing habitat loss, degradation, and fragmentation. The potential for "takings" of tortoise as a result of these activities would be minimized. The evaluation of minimal impact uses on a case-by-case basis would ensure that protective measures for the desert tortoise and habitat were included within the authorizations.

Disposal Areas

All of the designated critical habitat within the planning area would be retained in federal ownership and managed to assist tortoise recovery efforts. The retention of a large land mass of designated critical tortoise habitat would prevent further habitat loss or fragmentation. Since this habitat is considered the best available habitat in the planning area, the retention of all lands within ACECs would positively enhance tortoise recovery efforts in the Northeastern Mojave Recovery Unit. See Appendix C for listing of areas available for disposal.

New landfills would not be authorized within ACECs. Landfills provide foraging opportunities for ravens and other tortoise predators; prohibiting landfill authorizations within ACECs would lessen this threat to tortoise populations.

Acquisitions

Local governments and private individuals would be encouraged to acquire environmentally sensitive lands or rights from willing sellers within ACECs. These lands would then be exchanged for public lands outside the

ACECs. Such acquisitions, which could total approximately 1,500 acres, would help to protect additional habitat from loss or degradation and assist in meeting the delisting criteria for the desert tortoise in the Northeastern Mojave Recovery Unit.

Unauthorized Use

This alternative recommends as the first option the acquisition of the legislatively conveyed lands of Harrich Investments, LLC, (formerly Aerojet) should they become available. If fully successful, approximately 22,000 acres of critical desert tortoise habitat would be included in the Kane Springs ACEC and subject to the management prescriptions developed to recover and delist the desert tortoise. In addition, upon termination or relinquishment of the legislatively mandated lease, approximately 7,370 acres that are currently encumbered by a lease would be included in the Kane Springs ACEC. The intent of any acquisition would be to enhance ACEC reserve design and improve critical desert tortoise habitat.

While there is currently no known problem with unauthorized use, in the future resolving unauthorized use within ACECs to allow for title retention and reclamation of the site would be beneficial for the recovery and delisting of the desert tortoise. The parcels would remain in federal ownership and be managed for the recovery of the desert tortoise. Reclamation efforts would improve the quality of desert tortoise habitat.

Withdrawals

As recommended by the Recovery Plan, administrative withdrawals for public information/education facilities could be granted in ACECs. Through such facilities, the public would be provided with information on the desert tortoise and its habitat, as well as other resource values contained within the ACECs. Public awareness could benefit tortoises and other Mojave Desert species by reducing human-caused vandalism, unauthorized collection, and mortalities.

Outside of ACECs

Under this alternative, approximately 41,200 acres of designated critical habitat outside of ACECs would be retained in federal ownership to prevent further habitat loss or fragmentation. An additional 7,370 acres of critical desert tortoise habitat currently encumbered with a legislatively mandated, (PL 100-275) lease, would be available for exchange portions of the legislatively conveyed lands. This exchange would be critical habitat for critical habit and result in no net loss of habitat for the desert tortoise. The intent of any acquisition would be to enhance ACEC reserve design and improve critical desert tortoise habitat. Since designated critical habitat is considered by the USFWS to be essential for the conservation of the species, the retention of this habitat outside ACECs would complement other recovery efforts in the Northeastern Mojave Recovery Unit.

Approximately 15,000 acres of desert tortoise habitat outside of ACECs have been identified for possible disposal (See Appendix C for listing of areas available for disposal). None of this acreage is designated critical habitat for desert tortoise. These lands would not be managed to assist the recovery and delisting of the species and could be subject to actions that would create additional habitat loss or fragmentation. These effects would be mitigated by the requirement that Section 7 consultation be conducted for any land disposals within desert tortoise habitat. Entities purchasing these lands would be notified of their obligations under the Endangered Species Act (specifically the need to comply with section 9) and referred to the USFWS for information on obtaining an incidental take permit under section 10 of the ESA.

Surface-disturbing activities could be authorized on the 542,100 acres of desert tortoise habitat outside ACECs. Should such authorizations be proposed within those portions of the five Wilderness Study Areas (WSAs) located

outside the proposed ACECs, these activities would be required to meet the non-impairment criteria. Leases and other instruments of a more permanent nature would only be authorized on these acres outside of the ACECs. Mitigation measures would be developed through Section 7 consultation and required in the terms and conditions of the authorization. The impacts on desert tortoise habitat from land use authorizations would be reduced to the maximum extent possible.

From Recreation Management

Within ACECs

Casual OHV Use

Limiting casual OHV use to designated roads and vehicle trails would help to minimize the proliferation of new roads within the ACECs and the loss or fragmentation of desert tortoise habitat. This limitation could also lessen the possibility for direct mortalities and the crushing of burrows, as a result of cross-country vehicular traffic in the 212,500 acres of the proposed ACECs.

Organized OHV Events

Closing ACECs to all speed competitive events would eliminate these events from 83 percent of designated critical desert tortoise habitat in the planning area. New trails would not be created and no widening of existing trails would occur. No direct tortoise mortalities would be caused by speed competitive events. Since, historically, only one of these types of events has occurred annually within the planning area, the benefits from this closure are anticipated to be minimal.

Non-speed organized events would be authorized to pass through ACECs on designated routes, except during the tortoise's most active periods (March 15 - June 15, and August 15 - October 15) reducing impacts on desert tortoise and its habitat (Map 2-8).

The designation of routes would reduce the potential for course widening, additional soil compaction, and the creation of new courses. The non-speed nature of events and prohibition of events during the most active periods, would minimize the potential for direct mortalities of tortoises. Impacts associated with spectators and pits would not occur, because these would not be allowed within the ACECs.

Outside of ACECs

Allowing speed and non-speed events within desert tortoise habitat outside of ACECs could result in impacts to the desert tortoise and its habitat. By requiring that all future events be limited to existing roads and trails, the potential for further habitat destruction would be reduced. A potential would continue to exist for direct tortoise mortalities, possibly during speed events. Based on past monitoring of these types of events in tortoise habitat, direct impacts to tortoise would be expected to be less than one tortoise every 30 years at current use levels, and less than one every six years based on the maximum projected levels. Soil compaction and creation of new roads and trails by spectators might occur, causing the potential loss of very small amounts of habitat. The roads used



for these events would remain open to all other uses; the addition of these organized events would have little, if any, effect on the condition of the roads or surrounding areas. Historically there has been about one such event per year. It is expected that from 1 to 5 events would occur per year during the life of the plan.

Non-OHV Organized Events

Non-OHV organized and commercial events such as trail rides and commercial sightseeing would only be allowed when consistent with the recovery and delisting of the desert tortoise, creating little or no effect on the tortoise or its habitat. Demand for these types of events has historically been less than one event per year.

General Recreation

Improving opportunities for non-motorized recreation would neither benefit nor hinder recovery and delisting of the tortoise. Construction of wildlife guzzlers could increase other wildlife populations, stimulating additional hunting or trapping. Levels of casual OHV use could increase, in association with hunting and trapping. Most of this OHV activity would occur during the tortoise inactive season and would be unlikely to result in any direct tortoise mortalities. Impacts to tortoise habitat, including soil compaction and erosion, trampled vegetation, and crushed or collapsed burrows, could result from casual OHV use, however, these impacts would be minimal because they will only occur as a result of unauthorized off-road travel.

Non-consumptive recreation activities, such as hiking, casual horseback riding, and nature photography, could increase during the life of the plan. Surface disturbances or impacts to desert tortoise could occur as a result of the increase in these types of recreational activities in desert tortoise habitat. According to the Recovery Plan, such activities are compatible with the objectives for desert tortoise recovery (USFWS 1994a).

From Wilderness Management

Within ACECs

Approximately 105,500 acres of lands under wilderness review (Delamar, Evergreen ABC, Fish and Wildlife #1, Meadow Valley Range, and Mormon Mountains WSAs) are contained within the boundaries of the proposed ACECs. Until congressional release or designation as wilderness, this acreage would be managed under the Interim Management Policy (IMP) which mandates that proposed activities meet the non-impairment criteria. Desert tortoise recovery efforts would be enhanced by the IMP criteria, which restrict surface disturbances and vehicular access. Habitat loss or degradation and the possibility for incidental take would be minimized within the 105,500 acres managed under the non-impairment criteria. Should the WSAs be released from further consideration as wilderness, management would be completely consistent with the remainder of the ACECs as provisions of the IMP would no longer apply.

Outside of ACECs

Small portions of the five WSAs within the planning area are located outside of the ACECs. The non-impairment criteria of the IMP would benefit desert tortoise habitat by restricting many surface disturbing activities and imposing constraints on the creation of new roads. Should the WSAs be released from further consideration as wilderness, the potential for surface disturbance, degradation of tortoise habitat, and direct mortality of tortoises would be increased.

From Rights-of-Way Management

Within ACECs

Approximately 39 miles of utility corridors would be designated through the proposed ACECs, with 12.6 miles being located in the Kane Springs ACEC, 8.8 miles in Mormon Mesa ACEC, and 18.25 miles in the Beaver Dam Slope (Nevada) ACEC. Impacts to the desert tortoise or habitat would be considered during Section 7 consultation and mitigation measures required through the terms and conditions of any right-of-way grant issued. Any future projects sited within these corridors could create minimal impacts on desert tortoise populations and habitat. By concentrating powerlines in narrow corridors, raven perching sites would be localized, rather than dispersed throughout the ACECs. Overhead powerlines could provide additional perching sites for ravens along the 39 miles of proposed corridors.

Roads for utility rights-of-way could provide access into the proposed ACECs and increase the potential for tortoise mortalities and habitat degradation. However, existing roads would be used for construction and/or maintenance unless otherwise authorized. These impacts would be reduced because areas within the ACECs (outside of corridors) would be designated as avoidance areas. The number of surface-disturbing activities authorized would be lessened, helping to protect desert tortoise habitat.

New Federal Aid Highway material site rights-of-way would be excluded from the ACECs, unless they are within the one-mile wide corridor for free use permits and material site rights-of-way. In the Kane Springs ACEC, the only ACEC in close proximity to a Federal Aid Highway, the tortoise would benefit from limitations on surface disturbances relating to material sites.

Authorizations for new communication site rights-of-way would be limited to existing, established communication site developments. Exceptions would be made if the proponent can demonstrate that the existing sites are not technically feasible for a proposed use. Two developed communication sites with access roads and power are currently located within the proposed Mormon Mesa ACEC; each site comprises less than 5 acres of total disturbance. The granting of additional communication site rights-of-way at those sites, even if new surface disturbance were to be authorized, would constitute a minimal impact to desert tortoise habitat.

Outside of ACECs

New Federal Aid Highway material sites would be authorized outside of the ACECs only after Section 7 consultation has been completed and appropriate mitigation measures developed. Applicants for communication sites within desert tortoise habitat would be encouraged to locate facilities at existing sites. All rights-of-way (linear and areal) would be subject to Section 7 consultation and the development of mitigation measures designed to minimize incidental take and reduce surface disturbance. These mitigation measures could include requirements for habitat rehabilitation and compensation for unmitigated impacts. No existing rights-of-way would be terminated as a result of the Proposed Action.

From Minerals Management

Within ACECs

Kane Springs ACEC would be withdrawn from mineral entry approximately 65,900 acres of desert tortoise habitat within the ACEC would be closed to mineral entry, to fluid and non-energy mineral leasing, to the operation of the General Mining Law, subject to valid existing rights, and to mineral material disposal. The

desert tortoise and its habitat would benefit from these closures. The potential for direct mortality, burrow crushing, and habitat loss due to mining would be eliminated under this alternative.

Impacts associated with mineral material disposal, including habitat loss, degradation, fragmentation, and the potential taking of a tortoise would be reduced. It is anticipated that the NDOT would continue to hold 14 mineral material rights-of-way, with a potential of 3 more located within the designated corridor through the proposed ACECs. The Lincoln County Road Department could develop approximately 3 free use permits located in the designated corridor in the ACECs. However, over the life of the plan it is anticipated that no more than 500 acres of habitat loss would occur from these pits within the proposed ACECs. These would continue to be needed for highway and road maintenance. Mitigation measures outlined in **Appendix E**, and others developed through Section 7 consultation, would reduce the impacts to tortoise habitat and the potential for incidental take. These operations would be required to have a no jeopardy opinion decision from the USFWS.

Locatable Minerals

Exploration, and mineral developments would continue throughout the proposed Mormon Mesa and Beaver Dam Slope ACECs. Negative effects from mineral exploration and development could include direct mortality during mining activities, harassment, incidental take, and the loss and degradation of habitat. By requiring plans of operation for all mineral activities within Mormon Mesa and Beaver Dam Slope ACECs, the potential for these impacts would be mitigated to the extent possible. It has been determined that protection of the desert tortoise and habitat for recovery of the species cannot be accomplished through just mitigation measures in the Kane Springs ACEC as in the Mormon Mesa and Beaver Dam Slope ACECs. This is because the habitat in the Kane Springs ACEC is of higher quality and the population densities are higher than in the other ACECs. Due to these two aspects of the Kane Springs ACEC it would be very difficult to design a plan of operation that would sufficiently mitigate the impacts to the tortoise and its habitat and still provide for recovery of the desert tortoise. Closure of the Kane Springs ACEC would reduce the potential for further habitat fragmentation in the Northeastern Mojave Recovery Unit who's reserve design is already compromised because of the large edge effect (ratio of edge to interior area).

It is anticipated that exploration would continue at a rate of from 8 to 10 activities per year, for all types of locatable minerals within the planning area. The operations would consist of small exploration projects, that would disturb an estimated 5 acres per project. These could result in up to 50 acres of disturbance per year. It is estimated that one small mining operation would be developed during the life of the plan, with a disturbance of approximately 75 acres in the planning area. This would constitute a minimal loss of desert tortoise habitat within the planning area.

Fluid Minerals

Fluid mineral exploration and development could continue throughout the Mormon Mesa and Beaver Dam Slope ACECs. Impacts that could occur from these activities include loss and fragmentation of habitat, direct mortality of tortoises, and increased public access to habitat. By attaching the lease stipulations and conditions of approval, as outlined in **Appendix E**, and additional mitigation measures developed through Section 7 consultation, the impacts to desert tortoise habitat would be reduced to the extent possible.

No habitat disturbance from seismic activities would occur within ACECs, since these activities would be restricted to existing roads and trails. One wildcat well per year would disturb up to 5 acres. Should oil be found, one oil and gas field could occur during the life of the plan, disturbing up to 640 acres.

Mineral Materials

Impacts associated with mineral material disposal include habitat loss, degradation, fragmentation, and the potential for incidental take of a tortoise. By closing the ACECs to mineral material disposal (with the exception of one-mile wide road corridors for free use and Federal Highway Act material rights of way), these impacts would be reduced.

The majority of the mineral material pits required would be located along Highway 93; the Nevada Department of Transportation would continue to hold 14 material site rights-of-way, with the possibility of 3 more being developed. The Lincoln County Road Department may also have the need for 3 pits along the Kane Springs and Carp Elgin roads. Between Free Use Permits and NDOT Rights-of-Way there is an expected 500 acres of disturbance during the life of the plan.

Non-energy Leasable Minerals

Although no known exploration has taken place, it is anticipated that one exploration prospecting permit could be issued in either of the Mormon Mesa and Beaver Dam Slope ACECs. One drilling operation and an estimated 20 acres of disturbance could occur over the life of the plan. By applying Standard Operating Procedures, as described in Appendix E, and mitigation measures developed through Section 7 consultation, impacts to the desert tortoise and its habitat could be reduced to the extent possible. All disturbed areas would be reclaimed, according to standards in Appendix E.

Reclamation

All surface-disturbing activities would be required to reclaim the surface to the standards outlined in Appendix E. These standards require the surface to be recontoured to blend with the natural topography. The disturbance would be reclaimed to meet adjacent cover and diversity standards. These standards will be based on the site conditions and with coordination with USFWS. The reclamation will reduce impacts to the tortoise habitat over the long term.

Outside of ACECs

Locatable Minerals

The impacts described above for locatable minerals could occur within desert tortoise habitat outside of ACECs during exploration under notices and development under 5 acres. Mitigation would only be imposed through plans of operation when the exploration and development exceeded 5 acres. Plans and notices would prevent undue and/or unnecessary degradation of desert tortoise habitat.

Fluid Minerals

Habitat disturbance associated with fluid mineral activities would take place in three phases: exploration, wildcat drilling, and oil field production. It is estimated that 25 to 50 miles per year of seismic lines could occur within desert tortoise habitat outside of ACECs. This could result in up to 50 acres per year of disturbance from seismic activities. Mitigation measures outlined in Appendix E, along with others developed through Section 7 consultation from mineral materials, would reduce the impacts to tortoise habitat and reduce the potential for take.

Mineral Materials

The sale of mineral materials to the public would be expected to increase in the future, as population growth continues in the region. Mitigation measures, outlined in Appendix E, and those developed through Section 7 consultation, would reduce the impacts to tortoise habitat and the potential for incidental take. It is estimated that one new pit would be established every 5 years to meet public demand, disturbing an estimated 80 acres over the life of the plan.

Reclamation

All surface disturbing activities would be required to reclaim the surface to the standards outlined in Appendix E. These standards require the surface to be recontoured to blend with the natural topography. The disturbance would be reclaimed to meet adjacent cover and diversity standards, reducing impacts to tortoise habitat over the long term.

From Fire Management

Within and Outside of ACECs

Wildland fires would have the potential to alter desert plant communities and encourage the proliferation of non-native plant species, especially red brome. Such fires could also destroy forage and cover, as well as cause wildlife mortalities through exposure to smoke and heat. Tortoises would be susceptible to being killed, particularly when caught in the open or in shallow burrows, as a wildfire moves past them. After a fire, tortoises may experience food shortages and inadequate cover. Individuals may be able to survive a short term forage loss, since tortoises are adapted to food shortages during drought years. The loss of thermal cover may be a more important impact, particularly on sites where rocks are not available. Hatchlings and juvenile tortoises could be more vulnerable to predation as a consequence of reduced cover.

Fire suppression activities could also impact desert tortoise and their habitat. These impacts include vehicular crushing of live tortoises and the destruction of nests and burrows. The construction of firelines also has the potential to destroy nests and burrows. Off-road tracks created by suppression vehicles would be obliterated under this alternative, thus minimizing the creation of new permanent roads and trails.

Under the Proposed Action, full fire suppression tactics within desert tortoise habitat would reduce habitat loss. The use of suppression techniques to minimize surface disturbance and restrict off-highway vehicle travel would limit habitat destruction or degradation and reduce the potential for direct mortalities. Education of fire crews about the desert tortoise and its habitat could reduce effects associated with suppression activities. The use of Resource Advisors in the development of suppression tactics would further mitigate impacts to tortoise habitat. Habitat loss would be further minimized by locating fire camps, staging, and helispots outside of ACECs.

The use of prescribed fires or other tools consistent with recovery goals and objectives may be implemented to help reduce the re-burn cycle. Many areas burn repeatedly, reducing the potential for desired perennial and shrubs to return. By using prescribed fires on these areas, temporary fire breaks could be designed to reduce future fire size.

SOIL RESOURCES

From Special Management Areas

Within ACECs

Soil disturbance occurs as a result of grazing by domestic livestock, wild horses and burros, wildlife and human activities such as hiking, biking, and OHVs. Such compressional activities compact soils and directly damage microbiotic crusts. The effects can accelerate both wind and water erosion. Surface soil permeability and infiltration decreases variably according to the soil texture. Sheaths and filaments of microbiotic crusts are broken up and reduces the crusts capabilities to fix nitrogen and hold soil aggregates together. Runoff can increase by half and soil loss rates can increase six fold without apparent damage to vegetation. Grazing management practices which increase shrub components of range sites also can reduce the nitrogen fixing capabilities of crusts by as much as 80 percent.

The proposed action and management prescriptions for the ACEC' would not authorize livestock grazing and severely limit human induced compressional activities in the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACEC's. As a consequence of removal of large grazing animals and limiting human activities, microbiotic crusts would slowly recover, biodiversity would increase, and soil erosion would decrease. Cyanobacterial and green algae components of the crust could recover in as little as 1 to 5 years given average climate conditions and a nearby source of inoculum. Longer recovery time may be needed if no such sources exist nearby. Crust recovery would on a site specific basis reduce soil runoff and erosion and increase soil permeability and infiltration.

Outside of ACECs

Other actions, including restrictions on OHV casual and competitive uses and mining reclamation requirements, would benefit soils in the short and long term. Reductions in surface disturbances would represent a negligible decrease in soil erosion rates over the life of this plan.

WATER RESOURCES

From Special Management Areas

Within ACECs

Management actions proposed under the Proposed Action would remove livestock grazing from three allotments and portions of six additional allotments within proposed ACECs, eliminating a total of 5,658 AUMs. One HA within and overlapping the proposed Mormon Mesa ACEC would be managed at a zero population level for wild horses; about 35 animals would be removed from within and adjacent to the HA. Since grazing animals concentrate use at water sources and associated riparian habitats, the removal of livestock and wild horses and burros would positively impact three springs in the proposed ACECs. Trampling and heavy use would be eliminated at these sites. In some cases, riparian habitat would naturally regenerate or increase at two spring sources. Reduced numbers of grazing animals would benefit riparian zones along Meadow Valley Wash by improving stream bank stability. In the long term, sedimentation and salinity loading would decrease, water temperatures would be lowered, and peak flows moderated.

Outside of ACECs

Livestock and wild horse and burro management prescriptions would impose seasonal restrictions and seasonal utilization limits that could benefit three springs outside of ACECs. Trampling and heavy use would be lessened at these water sources. Riparian habitat would naturally regenerate or increase at some locations.

LIVESTOCK GRAZING MANAGEMENT

From Special Management Areas

Within ACECs

Grazing would not be authorized within the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs, affecting the nine allotments displayed in Table 4-2. These allotments encompass 697,200 acres and 16,961 AUMs; approximately 212,500 acres and 5,658 AUMs are within ACECs. Total AUMS would be reduced by 5,658, as livestock grazing is eliminated within the ACECs. More than half of these 5,658 AUMs have been almost entirely unused in the past ten years. (Refer to the Socio-Economic impacts analysis in this chapter for further discussion about impacts to livestock AUMs).

To keep livestock out of the ACECs, operators would use a variety of techniques including herding and placement of salt and water to manage livestock grazing outside of the ACECs. However, these practices would be labor and cost intensive and fencing some of the boundaries of the ACECs may be necessary. Based on current data, fences may need to be constructed and/or maintained in the Grapevine, Breedlove, Lower Lake East, Delamar, and Gourd Spring Allotments, in order to authorize livestock grazing on those portions of the allotments that are not within the ACECs. The construction of physical barriers, in some instances, could be precluded by the requirements of the non-impairment criteria for the Delamar, Meadow Valley Mountains, and Mormon Mountains WSAs. Additional fencing may be necessary at a later date, should monitoring indicate a need.

Outside of ACECs

Utilization limits would be applied to the following allotments (or portions of allotments) that are not within an ACEC:

Boulder Spring	Henrie Complex	Pahrnatag West
Breedlove	Jackrabbit	Pulsipher Wash
Buckhorn	Lime Mountain	Snow Spring
Delamar	Lower Lake East	Summit Spring
Flat Top Mesa	Lower Lake West	Terry
Garden Spring	Lower Riggs	White Rock
Grapevine	Mormon Peak	
Gourd Spring	Pahrnatag East	

Lowered utilization limits could result in early removal of livestock from the allotments. (Refer to the Socio-Economic impacts analysis in this chapter for an analysis of livestock grazing economics).

Table 4-2. Allotments partially or entirely within proposed ACECs.

Allotment Name	Allotment	Within Proposed ACECs		Permitted Use			
	Total Acres	Total Allotment Acres	Use Area Acres	Allotment Total	Within ACECs		Percent Reduction within Allotment
					Current	Proposed	
MORMON MESA ACEC							
Breedlove	121,500	41,400	10,400	864	166	0	19
Delamar	245,400	1,000	0	5,558	0	0	0
Gourd Springs	97,700	40,000	0	3,458	0	0	0
Mormon Peak	97,700	40,000	0	600	0	0	0
Rox-Tule	25,600	23,900	N/A	756	756	0	100
TOTALS	568,100	109,700	10,400	11,236	922	0	0
KANE SPRINGS ACEC							
Breedlove	121,500	400	0	864	0	0	0
Delamar	245,400	41,400	0	5,558	0	0	0
Grapevine	34,200	12,200	9,900	864	211	0	38
Lower Lake East	53,700	11,900	N/A	600	0	0	0
TOTALS	454,800	65,900	9,900	7,622	211	0	0
BEAVER DAM SLOPE ACEC							
*Sand Hollow (Beacon)	41,200 (5,600)	36,900 (5,600)	27,600 (5,600)	2,430 (2,095)	2,430 (2,095)	0 (0)	100 (100)
TOTALS	41,200	36,900	27,600	4,525	4,525	0	100
*Sand Hollow and Beacon Allotments are a dual use area; Beacon Allotment totals 5,682 acres, all within designated critical habitat, with 2,095 AUMs permitted for domestic sheep. This acreage is included within the total acreage for the Sand Hollow Allotment. (Source: BLM Caliente Field Station data)							

WILD HORSE AND BURRO MANAGEMENT

From Special Management Areas

Within ACECs

Prescriptions for the proposed Mormon Mesa ACEC necessitate the management of the Mormon Mountains HA for zero wild horses (Map 2-6), since the proposed ACEC would overlap with the HA. In order to manage the Mormon Mountains HA at a zero population, approximately 35 wild horses would be removed from within and adjacent to the HA.

The wild horse herd within the adjacent Meadow Valley Mountains HMA could be subject to removals, since the herds could interact along the common boundary of the HMAs in Meadow Valley Wash. Any wild horses (or burros) that establish home ranges within the Mormon Mountains HA and/or Mormon Mesa ACEC would be removed. The existing Union Pacific Railroad right-of-way fence within Meadow Valley Wash would be maintained to control the movement of the horses between the HMAs.

Outside of ACECs

Wild horses would be managed in the Blue Nose Peak and Meadow Valley Mountains HMAs, located outside of the ACEC, at the appropriate management level (AML) established through resource monitoring; any wild horses and burros in excess of the AML or outside of the boundaries of the HMA would be removed.

All of the adoptable age class wild horses and all age classes for burros would be placed into the adoption system. Any remaining animals would be relocated to another HMA, as mandated by BLM policy. Any relocation effort would impact the relocated horses since they would not know locations of reliable water sources or favorable foraging areas. Despite implementation of approved procedures, the relocation process could stress individual animals and a few individuals could die as a consequence of the relocation. The existing wild horses within the relocation HMA(s) would be subject to increased competition for forage and water supplies.

LANDS MANAGEMENT

From Special Management Areas

Within ACECs

The prescriptions on land use authorizations would have minimal effects on management of the lands. Impacts would include: 1) additional costs for permitting, mitigation, and reclamation for surface-disturbing lands actions proposed within ACECs; 2) loss of development opportunities; and 3) additional costs per acre for off-site mitigation fees, as uses are displaced to locations outside of ACECs.

Outside of ACECs

Demand for land use authorizations could increase in other portions of the planning area, as activities are displaced to locations outside of the proposed ACECs. This displacement would comprise a minimal impact to lands management.

RIGHTS-OF-WAY MANAGEMENT

From Special Management Areas

Within ACECs

The designation of utility corridors (**Map 2-7**) within the proposed ACECs should result in lower costs and more timely granting of rights-of-way for utility companies and free use permits and Federal Highway mineral material sites, since the proposed corridors would follow the routes of existing granted or constructed facilities. The environmental compliance inventories and analyses have already been completed for these facilities; some of these data could be used to support compliance for new applications. Section 7 consultation would be completed prior to any new authorizations.

Outside of ACECs

Rights-of-way outside of proposed ACECs would be granted on a case-by-case basis, with Section 7 consultation completed and mitigation measures developed, as needed, prior to the granting of the ROW.

RECREATION MANAGEMENT

From Special Management Areas

Casual OHV use

Within ACECs

All vehicles within ACECs would be limited to designated roads and trails. Since the designation of roads would be largely in response to public input, and intended to ensure all desirable public access, there would be very little impact to most recreational users. Most existing roads would likely remain available. Hunters and trappers would be most impacted by this restriction, since they could no longer legally travel cross-country or through washes to retrieve game, set and recover traps, or access remote areas by motorized vehicle.

Outside of ACECs

Casual OHV use would be limited to existing roads and vehicle trails. Impact on recreation use would be similar in scope to those described for the ACECs. Less compliance with this limitation could be anticipated, since the roads and vehicle trails would not be signed. The impacts on hunters and trappers would be the same, as cross-country travel would no longer be authorized. The possibility exists that new roads or vehicle trails could be created in non-compliance with this restriction. Road proliferation outside of ACECs could be anticipated to be less extensive under the Proposed Action than under Alternative C (No Action Alternative), due to public education initiatives and law enforcement. Over the life of the plan, from 1 to 4 miles of additional routes might be established, providing additional, unauthorized recreational access.

Organized OHV Events

Within ACECs

Speed competitive OHV events would not be permitted within ACECs unless, and until, information becomes available which reasonably and conclusively indicates that these types of activities can be managed so as not to

cause adverse impacts to the desert tortoise or its habitat. Designated and maintained roads for OHV use within ACECs could still be used for non-speed competitive and non-competitive OHV events, allowing participants to pass through these areas, except during the tortoise's most active periods (October 16 - March 15 and June 16 - August 31). Speed based events would be modified to exclude any speed sections within ACECs, causing certain types of events to be excluded if promoters were unable or unwilling to conform to this restriction. From one to five events could be affected annually over the life of the plan.

Outside of ACECs

Speed competitive events would continue to be allowed on existing roads (see stipulations in **Appendix D**). This restriction could affect between one to five events per year and 100 to 800 visitor use days annually over the life of the plan.

General Recreation

Within ACECs

Based on current and projected levels of use, it is unlikely that parking and camping developments would be needed. General recreation use would be unaffected. Should any parking or camping areas be developed, they would be intended to encourage use, and would not eliminate dispersed use. Development of sites would be likely to increase overall use of the area for recreation. Non-consumptive recreation activities that are not substantially surface-disturbing would continue to occur unrestricted throughout the plan area. Such activities are anticipated to increase slightly in numbers over the life of the plan.

Outside of ACECs

The impacts would be similar in scope to those described above within the ACECs.

MINERALS MANAGEMENT

From Special Management Areas

Within ACECs

The Kane Springs ACEC would be withdrawn from mineral entry. Within the Kane Springs ACEC, industry would not be able to explore or produce any minerals from the 65,900 acres (Table 4-3). Minerals with low to moderate potential would not be developed during the life of this plan unless the mineral withdrawal is removed. Existing mining claims would have valid existing rights and mining operations could occur in the ACEC in accordance with provisions of the Endangered Species Act. Based on BLM records there are no current mining claims located within the Kane Springs ACEC. Leases that have been issued within the ACEC would be allowed to operate under current lease terms. The operations would be required to have an approved application to drill or a plan of operations and have received a no jeopardy opinion from the USFWS to start operations. Should mineral prices rise, known deposits of gypsum and lead could become economically feasible to recover. These opportunities would be lost as a consequence of closure. Loss of mineral revenues would be experienced by the public. Royalties, payments and leasing rentals would not be paid to the federal government and these monies would not be distributed to the states.

Within the Mormon Mesa and Beaver Dam Slope ACECs, the public lands would remain open to locatable, fluid, and leasable mineral entry, with minor stipulations. Table 4-3 displays acreages with mineral

management prescriptions. Mitigation measures developed through the review of the mineral proposal, standard operating procedures and stipulations from section 7 consultation would be applied to the operation to protect desert tortoise and its habitat. Mineral materials would be closed to entry in the designated ACECs, except in the one-mile wide corridor for county and state governments to maintain their roads. Restrictions in lease instruments, plans of operation, and permits comprise an economic factor in the mineral industry's ability to explore for mineral resources, due to cost and timing of operations. Timing limitations under the Proposed Action could result in additional expenditures. If sufficient time is not available to complete exploration and drilling programs, detailed and necessary geologic information may not be acquired to support the next phase of the exploration plan. A mineral company could incur greater costs for the production of a mineral commodity, as a result of these restrictions.

Table 4-3. Minerals Management Acreage-Proposed Action.

	Open	Open with Restrictions	Closed
Locatable	542,100	146,600	65,900
Leasables	0	688,700	65,900
Mineral Materials	542,100	0	212,500

The requirement for plans of operations and Section 7 consultation for all locatable minerals within Mormon Mesa and Beaver Dam Slope ACECs could delay companies in the development of mineral properties and could require additional expenditures of funds for bonding and reclamation. The operation would be required to receive a no jeopardy opinion from the USFWS before any operations could begin. Reclamation standards would require that all efforts be successful, increasing bonding costs and expenses for operators. These requirements would render lower grade deposits uneconomical, causing a loss of mineral resource development potential.

Outside of ACECs

The requirement for Section 7 consultation during the approval process for minerals plans of operation could delay companies in the development of mineral properties and could require additional expenditures of funds for bonding and reclamation. Operations would be required to receive a no jeopardy opinion from the USFWS before they could begin. Mitigation measures developed through the review of the mineral proposal, standard operating procedures and stipulations from section 7 consultation would be applied to the operation to protect desert tortoise and its habitat. The mineral material industry would incur higher haulage costs from specific pits. These actions could render lower grade deposits uneconomical, causing a loss of mineral resource development potential. One of the major economic factors for a project is the timing of the overall operations. The company must schedule equipment and services during operations. The cost of delay includes equipment waiting on standby so they do not go to another project, based on the delay not being able to complete future projects because the field season ends and cost of storage of the equipment. The companies try to anticipate these delays based on the known environmental and other permitting requirements but additional delays beyond the anticipated dates are costly. The need for Section 7 consultation or an environmental impact statement is usually not an anticipated time factor.

VISUAL RESOURCE MANAGEMENT

From Mineral Materials Management

Mineral material disposal would be restricted to within one-half mile either side of three road corridors identified within the ACECs (Hwy. 93, Kane Springs Road and Carp-Elgin Road on Map 2-9). This would force all mineral materials activities and disturbances to be conducted within the foreground of the viewshed for travelers through the area. Under normal circumstances, visual resource management would require these types of activities to be located so as to minimize the impacts to the visual resource, rather than concentrate the impacts in the viewshed foreground. Only the Highway 93 corridor receives even moderate use by travelers, and the viewshed already contains similar disturbances. The other three corridors receive very light use levels, but similar disturbances are rare within those corridor viewsheds. The VRM classification throughout the planning area ranges from Class II to Class IV. All mineral material activities proposed would be within the management objectives for these classes.

Outside of ACECs

There would be no change from existing management.

FIRE MANAGEMENT

From Special Management Areas

Within and Outside ACECs

Pre-plan dispatch, resource advisor notification, and pre-season coordination would be used to meet resource objectives and prevent the loss of life, property, and unacceptable resource damage. As fire activity increases during the season, safety concerns would take precedence over the protection of other values. Implementation of suppression tactics that minimize vegetative losses and surface disturbance could increase the costs of fire suppression.

ECONOMIC AND SOCIAL CONDITIONS

From Livestock Grazing Management

Within ACECs

This alternative affects 12 livestock permittees on 9 allotments. However, only seven permittees with six allotments have current active use. Of the seven permittees with current active use, only four, in three allotments, have active grazing use within the proposed ACECs.

One permittee, utilizing the Breedlove and Grapevine Allotments would lose 377 AUMs of the total 1,428 AUMs available on these two allotments. This represents a loss of about 26 percent of the available forage, and a potential loss in net ranch income estimated at \$1696.50; capital asset value would decline by \$18,850. This permittee's operation would be adversely affected; alternative sources of feed or forage would be prohibitively expensive, and a reduction of herd size may be the only recourse. Operating with a reduced herd size could make the operation economically untenable, and result in the abandonment or sale of the business.

A second operator, utilizing the Rox-Tule Allotment, would lose 756 AUMs, or 100 percent of current permitted AUMs. This represents a total potential loss in net ranch income of \$3,402, and a loss of \$37,800 in capital asset value. However, this allotment was, until recently, utilized by a third-party under a base property lease, and is currently not being grazed. Whether leased or owner-operated, the loss of 100 percent of their licensed AUMs would force this operation to discontinue any proposed future utilization of these AUMs. With no current grazing use of these AUMs, there is no actual income loss and no adverse economic effects to an existing operation.

With a total of 12,436 currently permitted AUMs available to grazing operators who are affected by the Proposed Action, the reduction of 1,133 AUMs represents an overall reduction of 9.1 percent, and a loss of capital asset value of \$56,650. A decline in capital asset value affects the market value of the ranch property and the ability to obtain short-term operating loans. The total potential loss of net ranch income is estimated at \$5,100.

In addition, the sheep operation licensed for the Beacon Allotment would realize a substantial reduction in ranch wealth. The loss of 2,095 AUMs represents a potential market loss of \$104,750 in capital asset value. However, these AUMs have not been utilized since 1988, so the economic viability of an existing operation is not imperiled. At present the above potential market loss of \$104,750 in capital asset value, is being compensated for through a fair market buy out by the Clark County Habitat Conservation Fund.

One other cattle operation licensed for the Sand Hollow Allotment would realize a substantial reduction in ranch wealth. The loss of 2,430 AUMs represents a potential market loss of \$121,500 in capital asset value. Potential loss in net ranch income is estimated at \$10,935. At present the above potential market loss of \$121,500 in capital asset value, is being compensated for through a fair market buy out by the Clark County Habitat Conservation Fund.

In summary, one livestock permittee with an active grazing operation and one without an active grazing operation would be adversely affected. The active grazing permittee would suffer severe adverse effects and be required to reduce herd size or go out of business. Both permittees, however, have recourse to the Clark County Habitat Conservation Plan to receive financial compensation for the licensed public land AUMs, which would serve, in some measure, to ameliorate the economic loss.

Little economic impact would accrue to Lincoln County. One livestock permittee with a current active grazing operation within the proposed ACECs would lose a combined total of 377 AUMs and be immediately adversely affected. With income per AUM estimated at \$4.50, total immediate loss in potential net ranch income is estimated at \$1,696.50, annually. This represents 0.09 percent of total agricultural earnings, and 0.003 percent of total Lincoln County industrial earnings in 1995. Some very small reduction in livestock tax revenues might occur (estimated at about \$100.00), but with such a relatively small loss in regional income, there will be no noticeable reverberation throughout the economy and no noticeable multiplier effect upon purchases and sales, or income and employment.

Outside of ACECs

Future constraints that might be imposed upon livestock grazing, designed to achieve habitat objectives for desert tortoise, could result in adverse economic impacts to individual livestock grazing operations. The potential occurrence or extent of these effects would be variable and dependent upon future vegetative conditions which cannot be hypothesized. The loss of each AUM, however, may be considered equivalent to \$4.50 in net ranch income (profit after all costs), and approximately \$50.00 in ranch capital asset value.

From Lands Management

Within ACECs

Little or no economic benefit to Lincoln County would result from lands actions within ACECs under this alternative. A total of 212,500 acres of public lands within ACECs would be retained in federal ownership. Constraints on public land use and development would have the effect of diminishing any identifiable economic potential.

The proper development and utilization of administrative land withdrawals for public information and education facilities coupled with public awareness, developed through advertising and dissemination of information, could lead to enhanced visitation and local expenditures on the part of tourists interested in, or curious about, the desert tortoise, its biological history and requirements, and the habitat the desert tortoise requires as well as the measures taken to protect it. This does hold at least the potential for a small local industry and the promise of economic reward for anyone who might embrace and develop the opportunity.

Outside of ACECs

No specific economic benefits can be identified. All lands actions would be subject to Section 7 consultation and mitigation, thereby potentially increasing the costs of any proposed land use or development.

From Rights-of Way Management

The existence of designated corridors enables more efficient planning of future energy, communication and transportation facilities. A lack of such designated corridors, or the avoidance of existing corridors, engenders higher planning costs to utility companies and results in longer processing time for rights-of-way applications.

Section 7 consultation and mitigation fees could make permitting and construction of rights-of-way more expensive than in those areas where it is not required. Companies will take such costs under consideration in their analyses. Often, such costs are not of sufficient magnitude to discourage development of the most efficient and effective route. Alternate routes and the obstacles they might encounter can also entail great costs. However, individuals and local governments sometimes find these costs to be prohibitive and forego a proposed project. Such consultation and off-site mitigation fees have, in the past, created distrust for the Federal Government and provoked criticism from Lincoln County residents.

The planning area has three major power and communication transmission corridors as proposed in the Western Regional Corridor Study done by the Western Utility Group in 1986. Two of the three routes have existing major transmission facilities: a natural gas pipeline, 260 kV and 500 kV power transmission lines, and a fibre optic line. The other is encumbered with a right-of-way that has been granted for a 500 kV transmission line that has not as yet been constructed. Construction costs for these types of facilities range from \$250,000 to \$1,500,000 per mile. Although construction materials and a skilled workforce will likely be brought in from out of the area, Lincoln County would experience a short-term economic benefit from local spending of the workforce temporarily located there.

The Southwest Intertie Project, which plans to build a 500 kV power transmission line through the planning area estimates that it would pay \$4,935 per mile, annually, to Lincoln County in property tax. Even with the additional costs of Section 7 consultation and mitigation, this project is expected to be completed as proposed. These costs, associated with a power transmission line, are not likely to be nearly as expensive as the costs of planning and analysis, and the additional mileage that might be involved, for alternate routes.

From Recreation Management

No reduction in recreation visitor days is expected to occur. Indeed, the growing population in Clark County should have the effect of increasing recreation visitor days and associated expenditures. Limitations and restrictions on casual OHV use would not preclude such recreation, which is already largely confined to existing roads and trails. Such restrictions may, however, encourage the displacement of some of those activities to adjacent public lands outside of the planning area.

Formal OHV events originate primarily in Clark County, and provide little, if any, economic benefit to Lincoln County in either jobs or income.

While all public land recreation activities do contribute, in some measure, to the local economy, the associated expenditures represent less than 5 percent of any sector of the regional economy's income and employment. Any potential gains or losses would not be of sufficient magnitude to have any noticeable impact.

From Minerals Management

Within ACECs

The Kane Springs ACEC would be withdrawn from mineral entry. The Kane Springs ACEC has been identified to have low to moderate mineral potential. Nevertheless, any potential mineral development and production, with its attendant income and employment would be foregone throughout the period of closure. No mining claims have been located within the Kane Springs ACEC.

Mormon Mesa and Beaver Dam Slope ACECs would remain open with minor stipulations, and closure to mineral materials with the exception of a one-mile wide corridor. Minerals development potential and economic effects would remain as discussed in Alternative C, except for mineral materials which would be restricted for commercial sales.

Outside of ACECs

Locatable Minerals

Locatable minerals development is expected to proceed at a reduced rate, as compared to today. The requirement for plans of operations and compliance with Section 7 requirements to protect desert tortoise habitat would add additional costs to any of these operations. Cost increases may range from an additional 10 to 20 percent for environmental permitting and bonding.

Fluid Minerals

Fluid minerals development is expected to proceed as discussed in reasonable foreseeable development scenario. Leasing stipulations would add additional costs upon oil and gas exploration and development due to the constraints such restrictions impose on scheduling and operating efficiency. Industry sources indicate that these costs usually increase overall cost by 10 to 20 percent, depending upon the amount of stand-by time and scheduling of equipment. No evidence is available to indicate these additional costs are sufficiently prohibitive to discourage exploration; and no substantially adverse effects may be anticipated for oil and gas operations.

Mineral Materials

Mineral materials development is expected to proceed as discussed in the reasonable foreseeable development scenario. Disposal would be restricted to designated pits. Transportation costs would be affected if haul-distance is increased. Transportation costs increase by an estimated 25 percent for each doubling of the haul distance (Mine Cost Services, 1998). Distances range from 50 to 100 additional miles to available sources, with costs of 45 to 70 cents per mile.

ALTERNATIVE A (HABITAT MANAGEMENT ALTERNATIVE)

This alternative contains management objectives and direction that are the same as those described in the Proposed Action, includes the exact acres and configuration of the three ACECs as the Proposed Action, and allows differing management objectives and direction for Livestock Grazing, Recreation and Mineral Management. Multiple use would be modified by prescriptions for livestock grazing, recreational uses, and mineral entry within the three proposed ACECs. Section 7 consultation for any federal action that may affect listed species would continue to be completed prior to the issuance of authorizations. Impacts anticipated to occur under this alternative would be the same as those analyzed for the Proposed Action, with the exception of the following:

SPECIAL STATUS ANIMAL SPECIES

From Livestock Grazing Management

Within ACECs

Sheep

Under this alternative, approximately 5,600 acres of desert tortoise habitat would be closed to sheep grazing and 2,095 AUMs eliminated, benefiting the desert tortoise in the short and long term. In the short term, competition from sheep would be eliminated, providing a greater amount of forage for the desert tortoise. Fewer tortoises would experience malnutrition and/or osteoporosis. Improved nutrition for tortoise could reduce the susceptibility of individual tortoises to diseases, including Upper Respiratory Tract disease which currently impacts many wild tortoises in all age classes.

In the long term, the elimination of the potential for sheep grazing should maintain or allow for a slight improvement in tortoise habitat. As native species gradually become part of the vegetative communities, tortoise would benefit from better forage and habitat conditions. The above-ground biomass of perennial grasses and forbs would increase, providing thermal and protective cover for hatchlings and juvenile tortoises. With improved cover, juvenile tortoises would be less susceptible to predation. Tortoises and their burrows would also be protected from trampling by sheep. This is particularly important in areas where sheep are grazed, since trampling of tortoises or burrows in California has been shown to be a contributing factor in tortoise mortalities (Nicholson and Humphreys 1981).

Cattle

Cattle grazing on the 212,500 acres under this alternative would be allowed if forage was reserved at twice the level necessary for full adult tortoise reproduction (288 lbs. per acre) by March 15 of each year (Tracy, unpublished draft manuscript, 1995). This would eliminate competition during the spring and summer periods in poor production years. Grazing under this prescription should maintain or allow for a slight potential improvement in desert tortoise habitat on eight grazing allotments (shown in Table 4-2). However, at this time it cannot be determined how many years it would take for the habitat to improve to a point that would be of greatest benefit to the tortoise. Improvement, however, would be at a rate predictably slower than that of the Proposed Action or Alternative B. Grazing under this prescription does not address the nutritional needs of juvenile or hatchling tortoise or the other needs of adult tortoise (Tracy, unpublished draft manuscript, 1995). Even with the reservation of forage recent research has indicated that forage quality as opposed to forage quantity is more important (Ofidal and Allen 1996). An abundance of forage available to the desert tortoise may not be of sufficient quality to meet the tortoises' nutrient needs. Direct impacts to tortoise could continue (trampling).

From Recreation Management

Within ACECs

Organized OHV Use

Under this alternative, speed events would be allowed to pass through the ACECs during the tortoise inactive season. The potential for impacts such as the creation of new trails and widening of existing trails would be reduced because the events would only be allowed on designated roads. The potential for direct mortality would be eliminated because the event would be held only during the tortoise inactive period. Impacts associated with spectators and pits would not occur because these activities would not be allowed within the ACECs.

Non-speed organized events would be authorized to pass through the ACECs on designated routes, creating minimal impacts on desert tortoise and its habitat. The designation of routes would reduce the potential for course widening, additional soil compaction, and the creation of new courses. The non-speed nature of events would minimize the potential for direct mortalities of tortoises. Impacts associated with spectators and pits would not occur, because these would not be allowed within the ACECs.

Casual Use

Vehicle travel within ACECs would be limited to existing roads and vehicle trails under this alternative. Some non-compliance with the designation could be anticipated, resulting in the creation of new roads or trails.

From Minerals Management

Within ACECs

Locatable Minerals

Mining, exploration, and other mineral developments would continue throughout the proposed ACECs. Negative effects from the mineral exploration and development could include direct mortality during mining activities, harassment, incidental take, and the loss and degradation of habitat. By requiring plans of operation for all mineral activities within ACECs, the potential for these impacts would be mitigated to the extent possible. By applying Standard Operating Procedures, as described in Appendix E, and mitigation measures developed through Section 7 consultation, impacts to the desert tortoise and its habitat could be reduced to the extent possible. However, in the Kane Springs ACEC it would be difficult to design a plan of operation that would sufficiently mitigate the impacts to the tortoise and its habitat and still provide for the recovery of the tortoise. This is because the habitat in the Kane Springs ACEC is of higher quality and the population densities are higher than in the other ACECs. By leaving the Kane Springs ACEC open to locatable mineral activities this could increase the potential for further habitat fragmentation in the Recovery Unit and the unmitigated impacts to the tortoise could further reduce the potential for recovery of the tortoise.

It is anticipated that exploration would continue at a rate of from 8 to 10 activities per year, for all types of locatable minerals within the planning areas. The operations would consist of small exploration projects, that would disturb an estimated 5 acres per project. These could result in up to 50 acres of disturbance per year. It is estimated that one small mining operation would be developed during the life of the plan, with a disturbance of approximately 75 acres in the planning area. This would constitute a minimal loss of habitat within the planning area.

Fluid Minerals

Fluid minerals development is expected to proceed as discussed in the Reasonably Foreseeable Development Scenario. Impacts that could occur from these activities include loss and fragmentation of habitat, direct mortality of tortoises, and increased public access to habitat. By attaching the lease stipulations and conditions of approval, as outline in **Appendix E**, and those developed through Section 7 consultation, the impacts to desert tortoise habitat would be reduced to the extent possible.

No habitat disturbance from seismic activities would occur within ACECs since these activities would be restricted to existing roads and trails. One wildcat well per year would disturb up to 5 acres. If oil is found, one oil and gas field could occur during the life of the plan, disturbing up to 640 acres.

From Mineral Materials

Impacts associated with mineral material disposal include habitat loss, degradation, fragmentation, and the potential incidental take of a tortoise. By closing the ACECs to mineral material disposal (with the exception of one-mile wide corridors on designated roads) these impacts would be reduced. By applying Standard Operating Procedures, as described in **Appendix E**, and mitigation measures developed through Section 7 consultation, impacts to the desert tortoise and its habitat could be reduced to the extent possible.

From Non-energy Leasable Minerals

Although no known exploration has taken place, it is anticipated that one exploration prospecting permit would be issued. One drilling operation and an estimated 20 acres of disturbance could occur over the life of the plan. By applying Standard Operating Procedures, as described in **Appendix E**, and mitigation measures developed through Section 7 consultation, impacts to the desert tortoise and its habitat could be reduced to the extent possible. All disturbed areas would be reclaimed, according to standards in **Appendix E**.

Reclamation

All surface-disturbing activities would be reclaimed to meet the surface standards outlined in **Appendix E**. These standards require the surface to be recontoured to blend with the natural topography. The disturbance would be reclaimed to meet adjacent cover and diversity standards. The reclamation will reduce impacts to the tortoise habitat over the long term.

LIVESTOCK GRAZING MANAGEMENT

From Special Management Areas

Within ACECs

When forage requirements are met domestic livestock grazing (cattle) would continue to be authorized within the Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs, except for the Beacon Allotment. The Beacon Allotment would be closed to grazing, resulting in a loss of 2,095 AUMs (sheep). It should be noted that these 2,095 sheep AUMs have not been used since 1988. The forage production requirements would affect 8 allotments: Breedlove, Delamar, Gourd Spring, Grapevine, Lower Lake East, Mormon Peak, Rox-Tule, and Sand Hollow. In the western Mojave, an average of 7 centimeters (approximately 3 inches) of annual precipitation would be required to produce sufficient annual biomass to satisfy the criteria for livestock grazing authorization

(Tracy et al., unpublished draft manuscript 1995). Such a statistical relationship between winter rainfall and spring forage has not been developed for the northeast Mojave. However, based on available precipitation data, it is estimated that the planning area would receive this rainfall 7 years in 10. In addition to the production requirements, utilization limits would be in effect on the allotments. The production requirements and utilization limits would reduce management flexibility, which could result in livestock being removed from the allotment early, or not authorized at all. (Refer to the *Socio-Economic Analysis* for a further analysis of livestock grazing economics.)

RECREATION MANAGEMENT

From Special Management Areas

Organized OHV Use

Within ACECs

Speed-based OHV events would be allowed to pass through ACECs on designated, maintained roads during the tortoise inactive season. If adjacent management remains unchanged, only the Kane Springs Road would be available for this use. Non-speed and non-competitive OHV events would be permitted to pass through ACECs on designated, maintained roads without seasonal restrictions under this alternative. This would help to meet the recreation needs of the OHV community to route events from the metropolitan Las Vegas and Mesquite areas to points north, through the planning area. An estimated one to five OHV events could occur annually over the life of the plan.

Casual Use

Within ACECs

Vehicle travel within ACECs would be limited to existing roads and vehicle trails under this alternative. Hunters and trappers could be the most directly impacted by this limitation, since they could no longer travel legally cross-country or through washes to retrieve game, set and recover traps, or access remote areas by vehicle.

Outside of ACECs

Vehicle travel in tortoise habitat outside of ACECs would remain unrestricted. No impacts to casual OHV use would be sustained, since the management direction would remain the same as Alternative C (No Action Alternative).

MINERALS MANAGEMENT

From Special Management Areas

The Kane Springs, Mormon Mesa and Beaver Dam Slope ACECs would remain open to locatable, fluid, and leasable minerals entry, with minor stipulations. Table 4-4 displays acreage with mineral management prescriptions. Mineral materials and locatable minerals would be open to entry and would require a plan of operation and section 7 consultation. Mitigation measures and standard operating procedures would be applied to each operation to protect desert tortoise and its habitat. During the review of the mineral operation any additional stipulation necessary to protect the desert tortoise and its habitat would apply to operation. Any

stipulations from the section 7 consultation will be applied to the operation. Restrictions in lease instruments, plans of operation, and permits comprise an economic factor in the mineral industry's ability to explore for mineral resources, due to cost and timing of operations. Timing limitations under the Proposed Action could result in additional expenditures. If sufficient time is not available to complete exploration and drilling programs, detailed and necessary geologic information may not be acquired to support the next phase of the exploration plan. A mineral company could incur greater costs for the production of a mineral commodity, as a result of these restrictions.

Table 4-4. Minerals Management Acreage-Alternative A.

	Open	Open with Restrictions	Closed
Locatable	0	754,600	0
Leasables	0	754,600	0
Mineral Materials	0	754,600	0

The requirement for plans of operations and Section 7 consultation for all locatable minerals within Kane Springs, Mormon Mesa and Beaver Dam Slope ACECs could delay companies in the development of mineral properties and could require additional expenditures of funds for bonding and reclamation. The operation would be required to receive a no jeopardy opinion from the USFWS before it could begin. Reclamation standards would require that all efforts be successful, increasing bonding costs and expenses for operators. These requirements would render lower grade deposits uneconomical, causing a loss of mineral resource development potential.

The requirement for Section 7 consultation during the approval process for plans of operation for minerals could delay companies in the development of mineral properties and could require additional expenditures of funds for bonding and reclamation. The mineral material industry would incur higher haulage costs from specific pits. These actions could render lower grade deposits uneconomical, causing a loss of mineral resource development potential. If no jeopardy opinion can be received operations could not occur on mineral resources would not be developed.

One of the major economic factors for a project is the timing of the overall operations. The company must schedule equipment and services during operations. The cost of delay includes equipment waiting on standby so they do not go to another project, based on the delay not being able to complete future projects because the field season ends and cost of storage of the equipment. The companies try to anticipate these delays based on the known environmental and other permitting requirements but additional delays beyond the anticipated dates are costly. The need for Section 7 consultation or an environmental impact statement is usually not an anticipated time factor.

In order to offset these timing issues, companies will often hire third party contractors to provide the information and documentation, or prepare the appropriate reports and documents required to obtain approval. While some of these items are the responsibility of the BLM, due to time constraints, limited staff, and competing priorities, BLM is unable to prepare the necessary documents within sufficient time to meet the proponent's project goals. Therefore, companies do assume these additional costs in order to facilitate their project.

ECONOMIC AND SOCIAL CONDITIONS

From Livestock Grazing Management

Closure of the Beacon Allotment to sheep grazing would result in a loss of capital asset value to this operation of \$104,750. However, these AUMs have not been utilized since 1988, so the economic viability of an existing operation is not imperiled.

All livestock grazing operators on the 8 allotments affected by the forage production requirements would be required to find alternative sources of forage or shut-down operations in each of the 3 years in ten for which it is estimated that precipitation would not be adequate. Many would consider abandoning the effort and shutting down operations completely. About 3,782 AUMs may be affected by the shutdown, representing a direct loss in total net ranch income of \$17,019. However, the total effect may actually be much greater, particularly for those operations where public land AUMs meet only a portion of their annual forage requirements. Without alternative sources of forage, some operators may be required to reduce herd size or go out of business.

From Recreation Management

Within ACECs

No reduction in recreation visitor days is expected to occur. Indeed, the growing population in Clark County should have the effect of increasing recreation visitor days and associated expenditures. The restriction of vehicle travel within ACECs to existing roads and vehicle trails would impose only incidental costs on recreationists, particularly hunters and trappers. Such costs are insignificant and will probably not even be perceived by most recreationists, except in terms of the additional time that might be required when short-cut routes are not available for use.

Formal OHV events originate in Clark County, and proceed into Lincoln County and provide economic benefit to Lincoln County as a result of expenditures (gas, food, motel).

From Minerals Management

Within ACECs

Required mining plans of operations and section 7 consultation and mitigation would have a discouraging effect on smaller operations. However, in all such situations the decision to proceed would be based on estimated returns over costs. Such additional costs are usually incidental, not prohibitive, and may be found to exist, in one form or another, in most mineral exploration and development areas. Under this Alternative, minerals development within the Kane Springs ACEC would be allowed to proceed.

ALTERNATIVE B (DWMA ALTERNATIVE)

This alternative contains the management goals, objectives, and prescriptions specifically identified by the Recovery Plan except for those actions excluded through coordination with USFWS. A total of 307,000 acres in two DWMA's would be managed primarily for the recovery of the desert tortoise. These two areas include 126,700 acres (52 percent) of the designated critical habitat, considered by the USFWS to be essential for the recovery of the species, within Lincoln County. Boundary configurations for the proposed DWMA's were developed from maps and data contained in the Recovery Plan and through coordination with the USFWS. Management prescriptions would be applied only within the proposed DWMA's, since the Recovery Plan recommended that no special management attention need be applied to desert tortoise populations located outside special management areas unless those populations are in jeopardy (USFWS, pg. 45, 1994a). Section 7 consultation on any federal action that may affect listed species would continue to be completed prior to the issuance of surface-disturbing land use authorizations. Other management constraints, including IMP for Wilderness Study Areas, could limit the scope and intensity of impacts related to surface disturbance.

SPECIAL STATUS ANIMAL SPECIES

From Special Management Areas

Within DWMA's

Management prescriptions developed for DWMA's would benefit desert tortoise and wildlife in general. Current estimated population densities are depicted in Table 4-5. Data on population densities were collected from permanent study plots and strip transects, within the planning area. The proposed Mormon Mesa DWMA is bisected by the Meadow Valley Wash. The western portion (Area A) of the proposed DWMA contains better quality desert tortoise habitat than the eastern area (Area B) and, as a consequence, higher tortoise densities; this difference is reflected in the data shown in Table 4-5. Conflicting land uses would be eliminated, limited and/or mitigated, reducing both direct and indirect impacts on tortoises. Management prescriptions under this alternative would allow for improvement of tortoise habitat and would encourage upward tortoise population trends during the life of the plan. Improvement of tortoise habitat would be at a rate faster than Alternative A similar to that of the Proposed Action. However, this alternative provides for less connectivity of the ACECs between the adjoining planning areas and protects 31% less critical desert tortoise habitat than the Proposed Action.

Participation in a USFWS developed environmental education program could increase public awareness of the Mojave Desert ecosystem and the effects of human activities in arid lands. Desert tortoises and other species could experience reduced rates of human-caused mortalities (e.g. gunshots, vehicular crushing) as a result of a public education effort. Illegal collection of desert tortoises would also be reduced by increased public awareness and law enforcement.

Management direction outlined in this alternative for the DWMA's would improve desert tortoise habitat. By authorizing research within the DWMA's by permit, stipulations could be attached to the permit to help protect the tortoise and its habitat. The development and implementation of mitigations would ensure that population augmentation or enhancement of native species would not create conflicts with desert tortoise recovery. Experimental Management Zones could be established in which to conduct research relating to desert tortoise habitat and nutritional needs. The installation of crossing culverts would benefit tortoises and other wildlife species. This mitigation would require consent and cooperation from the Nevada Department of Transportation and the Union Pacific Railroad.

Table 4-5. Proposed DWMA's with acreage and estimated current tortoise populations.

DWMA NAME	ACRES	EST. TORTOISE NUMBERS PER SQ. MILE	EST. TORTOISE POPULATIONS PER UNIT
Coyote Springs DWMA	9,600	25 - 75	375 - 1,125
Mormon Mesa DWMA	Area A 56,300 Area B 241,100	25 - 75 10 - 20	2,199 - 6,597 3,767 - 7,534
DWMA Totals	307,000		6,341 - 15,256

The lack of management direction to initiate predator control within the proposed DWMA's could impair the recovery of the desert tortoise. Predation by ravens and other predators is considered to be a significant impact on desert tortoise populations, accounting for as much as 85 percent of mortality among hatchlings and juveniles in the western Mojave Desert (Berry 1986, 1988). Failure to coordinate predator control with the appropriate agencies (NDOW, USFWS, U.S. Department of Agriculture) could lower recruitment rates among young tortoises and affect population trends.

Outside of DWMA's

No special management attention would be directed to the 447,600 acres desert tortoise habitat outside of the proposed DWMA's, as per the direction in the Recovery Plan. This could result in downward population trend in these locales. Section 7 consultation would be completed for any federal action that may affect listed species or their designated critical habitat prior to the issuance of authorizations, thereby mitigating impacts to the extent possible.

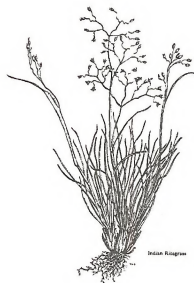
From Forestry and Vegetative Products Management

Within DWMA's

Not authorizing desert vegetation harvest (seed and/or plants) within DWMA's would have a beneficial effect on desert tortoise habitat. Mature plant species sought after by the harvester would remain within the DWMA's to provide cover and forage for the tortoise; seeds would be allowed to disseminate and germinate providing cover and forage for the tortoise in the future. Commercial demand for seed or native plant salvage harvesting has historically been very low in the planning area. This restriction would preclude commercial collection or harvesting by an estimated two operators per year, over the life of the plan.

Outside of DWMA's

No special management attention would be directed to the 447,600 acres of desert tortoise habitat outside of the proposed DWMA's. Section 7 consultation would be completed for any federal action



that may affect listed species or their designated critical habitat prior to the issuance of authorizations, thereby mitigating impacts to the extent possible.

From Livestock Grazing Management

Within DWMA's

Under this alternative, approximately 307,000 acres of desert tortoise habitat would be closed to livestock grazing and 3,688 AUMs eliminated, benefitting the desert tortoise in the short and long term. Competition with domestic livestock would be eliminated, providing a greater amount of quality forage for the desert tortoise. Fewer tortoises would experience malnutrition and possibly reduced occurrences of osteoporosis. Improved nutrition could reduce the susceptibility of individual tortoises to diseases, including the Upper Respiratory Tract Disease which currently impacts many wild tortoises in all age classes.

In the long term, the elimination of livestock grazing should improve the tortoise habitat. At this time, it cannot be determined how many years it would take for habitat to improve to a point that would be of greatest benefit to the tortoise. Improvement, however, would be at a rate similar to the Proposed Action and faster than Alternatives A and No Action. As native species gradually become part of the vegetative communities, tortoises would benefit from better quality forage and habitat conditions. The above-ground biomass of perennial grasses and forbs would increase, providing thermal and protective cover for hatchlings and juvenile tortoises. With improved cover, juvenile tortoises would be less susceptible to predation. Tortoises and their burrows would also be protected from trampling by livestock.

Outside of DWMA's

Livestock grazing would be authorized on approximately 447,600 acres of desert tortoise habitat outside of the proposed DWMA. Impacts could include the potential for trampling of tortoise and burrows, increased forage competition, and reduced native plant diversity (USFWS 1994c). Grazing practices could maintain but would most likely decrease the current seral stage of the vegetative community, resulting in a decrease in tortoise populations and the health of those populations.

From Wild Horse and Burro Management

Within DWMA's

Desert tortoise would receive beneficial impacts from the management of the Mormon Mountains and Meadow Valley Mountains HAs for zero wild horses and burros. Increased forage and cover would be available for tortoise and the possible trampling of tortoise and burrows would be eliminated.

Impacts associated with wild horse and burro grazing include the potential for trampling of tortoise and burrows, and forage competition. Also, see analysis concerning livestock grazing management within DWMA's, above.



Outside of DWMA's

Wild horse and burro management would continue within HMAs in desert tortoise habitat outside of the proposed DWMA's. Impacts would include the trampling of tortoise and burrows, continued forage competition, and reduced native plant diversity (USFWS 1994a). This could result in a decrease in tortoise populations and the health of those populations.

From Lands Management

Disposal Areas

Within DWMA's

Approximately 307,000 acres within DWMA's, including a total of 126,700 acres of designated critical habitat, would be retained in federal ownership and managed for the recovery of the desert tortoise.

Outside of DWMA's

Portions of 447,600 acres of desert tortoise habitat, including 118,200 acres of designated critical habitat, could be disposed of under appropriate authorities outside of DWMA's. This would contrast with the Proposed Action, where 41,200 acres of designated critical habitat outside of proposed special management areas (ACECs) would be retained in federal ownership. Disposal of habitat outside of the proposed DWMA's could result in the loss of federal protection for designated critical habitat and potential destruction or degradation of desert tortoise habitat. Mitigative measures, developed through Section 7 consultation, would lessen the impacts.

Land Use Authorizations

Within DWMA's

Land uses that result in surface disturbances would not be authorized within DWMA's. This would impact desert tortoises by eliminating habitat loss, degradation, and fragmentation, and the potential of taking a tortoise. By authorizing non-surface disturbing land uses on a case-by-case basis, protective measures for the desert tortoise and habitat could be placed on the permit to ensure that the potential of take is eliminated.

Outside of DWMA's

Both non-surface and surface disturbing activities could be authorized. Mitigative measures, developed through Section 7 consultation, and the constraints of meeting the non-impairment criteria for WSAs would lessen the impacts. A total of 447,600 acres of desert tortoise habitat would be available for land use authorizations under this alternative.

Acquisitions

Within DWMA's

By acquiring available private land or rights (such as easements) from willing sellers, those parcels could be managed for the recovery of the desert tortoise. Since the acquisition of any private lands would be dependent on private sector willingness and the support of the local governmental entity, the acreage and timing of such

acquisitions cannot be predicted. Any acquisitions would help to meet the reserve design criteria for large blocks of habitat to be managed for desert tortoise and other Mojave Desert species.

Outside of DWMA's

Should the 7,370 acres of the legislatively-leased private property of Harrich Investments, LLC (formerly Aerojet) become available and be re-acquired, they would be included within the Mormon Mesa DWMA. The inclusion of this large block of habitat would help to meet the reserve design criteria recommended by the Recovery Plan. No other special management attention would be directed to the 447,600 acres desert tortoise habitat outside of the proposed DWMA's. Section 7 consultation would be completed for any federal action that may affect listed species or their designated critical habitat prior to the issuance of authorizations, thereby mitigating impacts to the extent possible.

Unauthorized Use

Within DWMA's

While there is currently no known problem with unauthorized use, in the future resolving unauthorized use within ACECs to allow for title retention and reclamation of the site would be beneficial for the recovery and delisting of the desert tortoise. The parcels would remain in federal ownership and be managed for the recovery of the desert tortoise. Reclamation efforts would improve the quality of desert tortoise habitat in the long term.

Outside of DWMA's

No special management attention would be directed to the 447,600 acres desert tortoise habitat outside of the proposed DWMA's.

Withdrawals

Within DWMA's

Administrative withdrawals would be authorized within the DWMA's for the development of public information/education facilities. Public education relating to the desert tortoise and the Mojave Desert ecosystem would be conducted at these facilities, possibly assisting the recovery efforts through greater public awareness and the fostering of a public land etiquette.

Outside of DWMA's

No special management attention would be directed to the 447,600 acres desert tortoise habitat outside of the proposed DWMA's. Section 7 consultation would be completed for any federal action that may affect listed species or their designated critical habitat prior to the issuance of authorizations, thereby mitigating impacts to the extent possible.

Right-of-Way Management

Within DWMA's

New corridors would not be designated within DWMA's, benefitting desert tortoise and other species in the long term. Power and other types of utility lines would not proliferate in 307,000 acres of desert tortoise habitat,

reducing habitat loss and predator perching localities within the special management areas.

Outside of DWMA's

The remainder of the planning area (447,600 acres) would remain open to rights-of-way that could include surface disturbance of an estimated 118,200 acres of designated critical habitat. Utility rights-of-way could be granted in desert tortoise habitat outside DWMA's. Other management constraints, including the non-impairment constraints of the IMP, could limit or mitigate the scope and intensity of these impacts.

Mineral Rights-of-Ways

Within DWMA's

By not authorizing mineral leasing rights-of-way within DWMA's, the impacts associated with these rights-of-ways would be eliminated on approximately 307,000 acres of desert tortoise habitat.

Outside of DWMA's

The 447,600 acres outside DWMA's would remain open to rights-of-way that could include surface disturbance of 118,200 acres of designated critical tortoise habitat. Mineral leasing rights-of-ways could be granted in desert tortoise habitat outside DWMA's, subject to Section 7 consultation.

From Recreation Management

Casual OHV Use

Within DWMA's

Desert tortoise and other wildlife would benefit minimally by limiting vehicle travel to designated roads and limiting speeds within the DWMA's. Impacts associated with off highway activities, such as habitat fragmentation and degradation, the proliferation of roads, harassment, vandalism, and direct mortality, would be minimized.

Outside of DWMA's

The above-described impacts could occur within 447,600 acres of desert tortoise habitat outside of DWMA's because the OHV designation would remain open allowing casual use to occur throughout the area without limiting travel to roads and trails.

Organized OHV Events

Within DWMA's

Desert tortoise and other wildlife would benefit by prescriptions which would not authorize OHV events within DWMA's. The closure of the DWMA's to OHV events would eliminate the slight potential for habitat destruction and incidental take of a tortoise.

Outside of DWMA's

Impacts associated with organized OHV events could occur outside of the DWMA's. These include direct mortality and indirect effects, soil compaction and erosion, creation of new roads and trails by spectators, and increased potential for harassment of tortoises. However, these impacts could be lessened because of the OHV limitation within adjoining districts (Las Vegas & Arizona Strip). Events from these districts will not be able to proceed through the Ely District of into these district unless they are in conformance with that particular districts limitations.

Non-OHV Organized Events

Within DWMA's

By not authorizing non-OHV and commercial events within DWMA's, the slight potential for taking of a tortoise or degradation of habitat as a result of these activities would be eliminated.

Outside of DWMA's

The approval of some types of non-OHV and commercial events within the 447,600 acres of desert tortoise habitat outside the DWMA's has the slight potential of taking a tortoise or degrading of habitat. Stipulations developed through Section 7 consultation would lessen impacts to the desert tortoise and its habitat.

General Recreation

Within DWMA's

If necessary, sites for parking and camping could be established where appropriate within DWMA's to reduce or avoid impacts to tortoise and/or habitat. By allowing only recreational activities within DWMA's that do not cause surface disturbances, the impacts to tortoise and their habitat would be reduced. Improving opportunities for non-motorized recreation would neither benefit nor hinder recovery and delisting of the desert tortoise. By improving these opportunities, recreational use could increase slightly within the DWMA's.

Outside of DWMA's

No special management attention would be directed to the 447,600 acres desert tortoise habitat outside of the proposed DWMA's. Section 7 consultation would be completed for any federal action that may affect listed species or their designated critical habitat prior to the issuance of authorizations, thereby mitigating impacts to the extent possible.

From Wilderness Management

Within DWMA's

Approximately 245,500 acres of lands under wilderness review (Delamar, Evergreen ABC, Fish and Wildlife #1, Meadow Valley and Mormon Mountains WSAs) are contained within the boundaries of the two proposed DWMA's. Until congressional release or designation as wilderness, this acreage would be managed under the IMP which mandates that proposed activities meet the non-impairment criteria. Desert tortoise recovery efforts would be enhanced by IMP criteria, which restricts surface disturbance and vehicular access. Habitat loss or degradation and the possibility for incidental take would be minimized within the 245,500 acres managed under

the IMP. Should the WSAs be released from further consideration as wilderness, management within DWMAs would continue to restrict surface disturbances and habitat degradation.

Outside of DWMAs

The non-impairment criteria of the IMP would benefit desert tortoise habitat outside of proposed DWMAs by restricting many surface disturbing activities and imposing constraints on the creation of new roads. The restrictions on human activities within WSAs would also minimize the possibilities for habitat fragmentation or loss. Should the WSAs be released from further consideration as wilderness, the protection provided under the IMP would be eliminated. More traditional multiple uses would be expected to occur within those areas with an increase of surface disturbance and habitat degradation.

From Minerals Management

Within DWMAs

Approximately 307,000 acres of desert tortoise habitat within the DWMAs would be closed to mineral entry, to fluid and non-energy mineral leasing, to the operation of the mineral laws, subject to valid existing rights. Existing mining claims would be reviewed through validity exams. If the claim is valid, mining operations can occur. Existing permits and leases would remain in effect until they expire. The desert tortoise and its habitat would benefit from these closures. The potential for direct mortality, burrow crushing, and habitat loss would be lessened under this alternative.

Impacts associated with mineral material disposal, including habitat loss, degradation, fragmentation, and the potential taking of a tortoise would be reduced. It is anticipated that the Nevada Department of Transportation would continue to hold 17 mineral material rights-of-way, some located within the proposed DWMAs. The only pits projected to be used within the DWMAs would be those along U.S. Highway 93. These would continue to be needed for highway maintenance. As outlined in the Reasonably Foreseeable Development Scenario an estimated 2 acres of disturbance per pit annually over the life of the plan could result, totaling approximately 1700 acres of habitat loss within the DWMAs. Mitigation measures outlined in **Appendix E**, and others developed through Section 7 consultation, would reduce the impacts to tortoise habitat and the potential for incidental take.

Outside of DWMAs

Desert tortoise habitat would remain open to the operation of all applicable laws. Habitat loss and fragmentation, as well as direct mortalities, could continue on approximately 447,600 acres of public lands. Mineral material sales would increase in the future, resulting in an increased need for mineral material needs. These actions could be located in desert tortoise habitat outside of DWMAs. Impacts associated with mineral material disposal include habitat loss, degradation, fragmentation, and the potential taking of a tortoise. It is estimated that one new community pit would need to be established every 5 years to handle this demand, disturbing a projected total of 20 acres of desert tortoise habitat over the life of the plan.

From Fire Management

Within and Outside DWMAs

By minimizing surface disturbance during fire suppression within the DWMAs, the desert tortoise would benefit. Impacts from this alternative would be similar to the Proposed Action.

SOIL RESOURCES MANAGEMENT

From Special Management Areas

Within DWMA's

Soil disturbance occurs as a result of grazing by domestic livestock, wild horses, burros, wildlife and human activities such as hiking, biking, and OHVs. Such compressional activities compact soils and directly damage microbiotic crusts. The effects can accelerate both wind and water erosion. Surface soil permeability and infiltration decreases variably according to the soil texture. Sheaths and filaments of microbiotic crusts are broken up and reduces the crusts capabilities to fix nitrogen and hold soil aggregates together. Runoff can increase by half and soil loss rates can increase six fold without apparent damage to vegetation. Grazing management practices which increase shrub components of range sites also can reduce the nitrogen fixing capabilities of crusts by as much as 80 percent.

The management prescriptions for the DWMA's would not authorize livestock grazing and severely limit human induced compressional activities in two DWMA's. As a consequence of removal of large grazing animals and limiting human activities, microbiotic crusts would slowly recover, biodiversity would increase, and soil erosion would decrease. Cyanobacterial and green algae components of the crust could recover in as little as 1 to 5 years given average climate conditions and a nearby source of inoculum. Longer recovery time may be needed if no such sources exist nearby. Crust recovery would on a site specific basis reduce soil runoff and erosion and increase soil permeability and infiltration.

Outside of DWMA's

No special management attention would be directed toward soil resources on the 447,600 acres of desert tortoise habitat located outside of the proposed DWMA's. Mitigation measures developed through Section 7 consultation would lessen impacts to habitat associated with project specific activities. Grazing by both livestock and wild horses and burros would continue outside of the proposed DWMA's, resulting in soils compaction.

WATER RESOURCES/RIPARIAN MANAGEMENT

From Special Management Areas

Within DWMA's

Actions under this alternative would affect a total of nine livestock grazing allotments and two HAs within the proposed DWMA's, resulting in a reduction of 3,688 AUMs. Since grazing animals often concentrate their use on and around spring sources, streams, and their associated riparian habitats, a reduction in the numbers of large grazing animals would positively impact water and riparian resources in the proposed DWMA's. Positive impacts to four spring sources and their associated riparian zones would result from the removal of trampling and heavy use. The water source to the riparian zones would return in some cases, allowing the riparian habitat to expand. Meadow Valley Wash would benefit from reduced use by grazing animals. Banks would stabilize, sedimentation, salinity loads, and water temperatures would decrease, and peak flows would be moderated along portions of the drainage.

Outside of DWMA's

No special management attention would be directed toward water/riparian resources on the approximately 447,600 acres of desert tortoise habitat. Mitigation measures developed through Section 7 consultation would lessen impacts associated with project-specific activities. Grazing by both livestock and wild horses and burros would continue outside of the proposed DWMA's, resulting in impacts to water and riparian resources.

LIVESTOCK GRAZING MANAGEMENT

From Special Management Areas

Within DWMA's

Grazing would be eliminated within the proposed Coyote Springs and Mormon Mesa DWMA's, affecting the nine allotments shown in Table 4-6. These allotments encompass 857,600 acres and 18,501 AUMs of which 307,000 acres and 3,688 AUMs are within DWMA's. The elimination of grazing would result in a loss of 3,688 cattle AUMs.

The 7 allotments located partially within the boundaries of the proposed DWMA's would also be affected by the prescription to eliminate livestock grazing within the DWMA's, since no structural barriers (e.g. fences) are currently in place that would restrict livestock access to the proposed DWMA's. Fences would have to be constructed in the Grapevine, Delamar, Lower Lake East, Henrie Complex, White Rock, Mormon Peak and Gourd Spring Allotments, in order to authorize livestock grazing on those portions of the allotment that are not within the DWMA's. Constraints on the construction of some of these fences could be imposed by the requirements of the non-impairment criteria for the Meadow Valley Mountains and Mormon Mountains WSAs.

Outside of DWMA's

The 16 allotments located outside of the boundaries of the proposed DWMA's within the planning area, would not be affected by this alternative.

WILD HORSE AND BURRO MANAGEMENT

From Special Management Areas

Within DWMA's

The Recovery Plan states that wild horses and burros should not be managed within DWMA's. In order to eliminate wild horses and burros within the Mormon Mesa DWMA, the Mormon Mountains and Meadow Valley Mountains HAs would be managed for zero wild horse and burros (Map 2-15). The proposed DWMA would overlap over 80 percent of the Mormon Mountains HA. Approximately 25 percent of the Meadow Valley Mountains HA is located within the proposed DWMA; the only reliable water sources for the wild horses occurs within that portion of the HA located within the DWMA. Approximately 35 wild horses would be removed from within and adjacent to the Mormon Mountains HA, while approximately 40 wild horses would be removed from within and adjacent to the Meadow Valley Mountains HA.

All of the adoptable age class wild horses and all age classes for the burros would be placed into the adoption system. Any remaining animals would have to be relocated to another HMA, as mandated by BLM policy. This relocation effort could impact the relocated horses since they would not know where the reliable water sources

Table 4-6. Allotments partially or entirely within DWMA's.

Allotment Name	Allotment	Within Proposed DWMA's		Permitted Use			
	Total Acres	Total Allotment Acres	Use Area Acres	Allotment Total	Within DWMA's		Percent Reduction within Allotment
					Current	Proposed	
MORMON MESA DWMA							
Breedlove	121,500	114,100	54,100	560	864	0	100
Delamar	245,400	47,000	0	5,558	0	0	0
Grapevine	34,200	12,400	10,200	560	217	0	39
Gourd Springs	97,200	22,200	12,100	3,458	974	0	28
Henrie Complex	169,100	36,200	7,000	3,185	228	0	7
Lower Lake East	53,700	1,400	0	640	0	0	0
Mormon Peak	77,900	32,300	4,800	600	217	0	36
Rox-Tule	25,600	25,600	N/A	756	756	0	100
White Rock	33,000	6,200	4,100	2,880	432	0	15
TOTALS	857,600	297,400	92,300	18,501	3,688	0	20
COYOTE SPRINGS DWMA							
Delamar	245,400	4,900	0	5,558	0	0	0
Lower Lake East	53,700	4,700	0	640	0	0	0
TOTALS	299,100	9,600	0	6,198	0	0	0

and favorable foraging areas were located. A small number of individual animals could die as a result of the relocations. The resident horses within the relocation HMA(s) would be affected by the increased competition for forage and water supplies.

Outside of DWMA's

Wild horses would be managed in the Blue Nose Peak HMA at an appropriate management level (AML) established through the allotment evaluation process. Reliable water for these wild horses is located far enough from the proposed DWMA boundary so that the animals would not enter the DWMA.

LANDS MANAGEMENT

From Special Management Areas

Disposal Areas

Within DWMA's

Disposal would not be authorized within the two DWMA's.

Outside of DWMA's

Up to 118,200 acres of designated critical habitat could be disposed, through appropriate authorities, since no special management attention would be directed toward desert tortoise habitat outside of the proposed DWMA's. Should any disposal occur, the lands might not be managed to meet the recovery and delisting objectives for desert tortoise.

Acquisitions

Within DWMA's

Alternative B proposes the acquisition of private lands or rights from willing sellers, for inclusion within the Coyote Springs and Mormon Mesa DWMA's. Should the 7,370 acres of the legislatively-leased property of Harrich Investments, LLC (formerly Aerojet) become available and be re-acquired, the acreage would be included within the Mormon Mesa DWMA. In the event that such acquisitions are completed over the life of the plan, a substantial block of public land would be managed for the recovery and delisting of the desert tortoise, helping to meet the reserve design criteria recommended by the Recovery Plan. Since the acquisition of any private lands is dependent on private sector willingness and the support of local governments, such acquisitions cannot be scheduled nor predicted to occur.

Outside of DWMA's

No special management direction would be directed to acquisitions of tortoise habitat outside of the DWMA's.

RIGHTS-OF-WAY MANAGEMENT

From Special Management Areas

Within DWMA's

Utility corridors would not be designated within the proposed DWMA's. Rights-of-way authorizations requiring surface disturbance would not be granted. Avoidance of the DWMA's could increase the length of utility lines and, as a consequence of the increased distances, the construction costs for utility companies and rate payers. The requirements to avoid siting facilities within DWMA's would likely affect only a limited number of future right-of-way projects. The local users and applicants would not be impacted since the regional population centers (Alamo and Mesquite, Nevada) are located outside of the DWMA's.

Outside of DWMA's

The requirements for Section 7 consultation prior to the authorization of rights-of-way in desert tortoise habitat could continue to impose time delays, unless a programmatic consultation were in place, and additional compliance costs on utility companies and rate payers. This would impact all future grants.

RECREATION MANAGEMENT

From Special Management Areas

Within DWMA's

Casual OHV use

All vehicles within DWMA's would be limited to designated roads and subject to speed limits. Since the designation of roads would be largely in response to public input, and intended to ensure all desirable public access, there would be very little impact to the recreational user. Most existing access would be maintained. Posting speed limits to encourage drivers to limit their speed would have little, if any, effect since travel over most of the roads within the DWMA's is limited by the condition of the road and surrounding terrain.

Organized OHV events

The DWMA's would be closed to all competitive and organized events, forcing all OHV events otherwise planned for the area to be conducted along the Toiyup Wash corridor. As the only OHV corridor in the area, it could create competition for available use dates, and could cause the route to become deteriorated over time, reducing user satisfaction. The repetition itself would also be likely to reduce user satisfaction.

Non-OHV Organized events

Closing DWMA's to all organized (non-OHV) events would eliminate the very slight potential for mortality or harassment of tortoises, and would eliminate the slight amount of habitat degradation that might occur as a result of these activities. Demand for organized non-OHV events would increase as regional populations expand and public lands uses are displaced from metropolitan Las Vegas and Mesquite, Nevada, and St. George, Utah.

General Recreation

Restricting all parking and camping to specific, designated areas would confine the relatively few users of the planning area to specific locations. Although it would not effect a large number of people, it would change their experience from one of freedom from regulation, to one where they must be aware of the regulations. Most users of this area choose to go there for the remoteness, and the primitive, unconfined recreational experience. This experience would be altered or degraded by the requirement of designated camping and parking areas.

MINERALS MANAGEMENT

From Special Management Areas

Within DWMA's

The DWMA's would be withdrawn from mineral entry. The DWMA's would require a withdrawal application to be approved by the Department of Interior. There are 30 existing mining claims within the DWMA's. Existing mining claims would have valid existing rights. Existing mining claims would require a validity exam prior to operations. If they are found to be valid, the mining operations could occur in the DWMA's in accordance with provisions of the Endangered Species Act. Leases that have been issued within the DWMA's would be allowed to operate under current lease terms. The operations would be required to have an approved application to drill or a plan of operations and have received a no jeopardy opinion from the USFWS to start operations. Industry would not be able to explore or produce any minerals from the 307,000 acres within the DWMA's (Table 4-7) except on existing mining claims and leases. Minerals with high to moderate potential would not be developed during the life of this plan unless the withdrawals are removed. Should mineral prices rise, known deposits of gypsum and lead could become economically feasible to recover. These opportunities would be lost as a consequence of closure. Loss of mineral revenues would be experienced by the public. Royalties, payments and leasing rentals would not be paid to the federal government and these monies would not be distributed to the states.

Mineral material pits would not be authorized within DWMA's. The materials industry would be impacted to varying degrees, ranging from loss of income to irreversible and irretrievable losses of access to the mineral resource. Fair market value revenues from mineral material sales would not be available to the federal government.

Overall, loss of access into the DWMA's would deny industry the ability to explore, discover, develop and produce mineral commodities. This loss would result in the economic loss of minerals produced and the loss of monies to governments.

Outside of DWMA's

Section 7 consultation would continue to be required for mineral plans of operations outside of DWMA's. Mitigation measures required as a result of Section 7 consultation could impose seasonal restrictions or other constraints on the development of mineral deposits and increase the costs of production. The operation would be required to receive a no jeopardy opinion from the USFWS before it could begin. Reclamation standards would require that all efforts be successful, increasing bonding cost and expenses for operators.

Table 4-7. Minerals Management Acreage-Alternative B.

	Open	Open with Restrictions	Closed
Locatable	447,600	0	307,000
Leasable	447,600	0	307,000
Mineral Materials	447,600	0	307,000

FIRE MANAGEMENT

From Special Management Areas

Within DWMA's

Pre-plan dispatch, Resource Advisor notification, and pre-season coordination would be used to meet resource objectives and prevent the loss of life, property, and unacceptable resource damage. As fire activity increases during the season, safety concerns would take precedence over other values. Increased fire management intensity, including surface disturbance related to suppression activities, could result in tortoise habitat loss or degradation in DWMA's. Implementation of suppression tactics that minimize vegetative losses and surface disturbance could increase the costs of fire suppression.

Outside of DWMA's

Impacts to fire management would be similar to those described for Alternative C (No Action Alternative), since no special management attention would be directed to desert tortoise habitat outside of the DWMA's.

ECONOMIC AND SOCIAL CONDITIONS

From Livestock Grazing Management

Within DWMA's

This alternative affects nine livestock permittees on nine allotments. However, only six permittees with seven allotments have current active use. Of the six permittees with current active use, only five, in five allotments, have active grazing use within the proposed DWMA's. Two of these operators, utilizing the Gourd Springs Allotment would lose a total of 974 AUMs. This represents about 28 percent of their total available AUMs or an estimated \$4383.00 in net ranch income, and \$48,700 in capital asset value. These operators should be able to continue current operations because sufficient permitted AUMs would remain available to continue their five year average use.

One operator, utilizing the Breedlove, Grapevine, and Henrie Complex Allotments would lose 1,195 AUMs of the total 2,399 AUMs available on these three allotments. This represents a loss of about 50 percent of the available forage, and a potential loss in net ranch income estimated at \$5377.50; capital asset value would decline by \$59,750. This permittee's operation would be adversely affected; alternative sources of feed or forage would be prohibitively expensive, and a reduction of herd size may be the only recourse. Operating with a reduced herd size could make the operation economically untenable, and result in the abandonment or sale of the business.

A fourth operator, utilizing the Rox-Tule Allotment, would lose 756 AUMs, or 100 percent of current permitted AUMs. This represents a total potential loss in net ranch income of \$3,402, and a loss of \$37,800 in capital asset value. However, this allotment was, until recently, utilized by a third-party under a base property lease, and is currently not being grazed. Whether leased or owner-operated, the loss of 100 percent of their licensed AUMs would force this operation to discontinue any proposed future utilization of these AUMs. With no current grazing use of these AUMs, there is no actual income loss and no adverse economic effects to an existing operation.

A fifth operator, utilizing the Henrie Complex Allotment, would lose 114 AUMs, or five percent of current permitted AUMs. This represents a total potential loss in net ranch income of \$513, and a loss of \$5,700 in capital asset value. This permittee's operation would be adversely affected; alternative sources of feed or forage would be prohibitively expensive, and a reduction of herd size may be the only recourse. Operating with such a small reduction in herd size should not make the operation economically untenable, and should not result in the abandonment or sale of the business.

A sixth operator, utilizing the Mormon Peak Allotment, would lose 217 AUMs, or 36 percent of current permitted AUMs. This represents a total potential loss in net ranch income of \$976.50, and a loss of \$10,850 in capital asset value. However, this allotment is currently not being grazed. The loss of 36 percent of their licensed AUMs could force this operation to discontinue any proposed future utilization of these AUMs. With no current grazing use of these AUMs, there is no actual income loss and no adverse economic effects to an existing operation.

A seventh operator, utilizing the White Rock Allotment, would lose 432 AUMs, or 15 percent of current permitted AUMs. This represents a total potential loss in net ranch income of \$1944, and a loss of \$21,600 in capital asset value. This operator should be able to continue current operations because, he has two other allotments in close proximity to the White Rock allotment with sufficient permitted AUMs available to continue his five year average use.

With a total of 18,501 currently permitted AUMs available to grazing operators who are affected by Alternative B, the reduction of 3,688 AUMs represents an overall reduction of 19.9 percent, and a loss of capital asset value of \$184,400. A decline in capital asset value affects the market value of the ranch property and the ability to obtain short-term operating loans. The total potential loss of net ranch income is estimated at \$16,596.

In summary, 5 livestock permittees with active grazing operations would be adversely affected; 4 of these permittees can continue to sustain their grazing and herd size, based on 5 year average active use; their opportunity to expand their herd size would, however, be limited. The fifth permittee would suffer severe adverse effects and be required to reduce herd size or go out of business. This permittee does, however, have recourse to the Clark County Habitat Conservation Plan to receive financial compensation for the licensed public land AUMs, which would serve, in some measure, to ameliorate the economic loss.

Additional temporary losses may occur if it proves necessary to limit grazing on those portions of these allotments which lie outside of the DWMA's until such time as fence construction can be completed. Actual losses in net ranch income would probably be much higher as ranchers would be forced to cut their herd size to cope with the lack of availability of seasonal forage. One operation would have no choice but to abandon the business. All would be forced to reconsider the feasibility of remaining in the cattle business.

Little economic impact would accrue to Lincoln County. Some very small reduction in livestock tax revenues might occur estimated at about \$198.00, but there will be no noticeable reverberation throughout the economy and no noticeable multiplier effect upon purchases and sales, or income and employment.

Outside of DWMA's

The 17 allotments outside of the boundaries of the proposed DWMA's are open to grazing without seasonal utilization limits. No adverse economic effects are identified.

From Lands Management

Within DWMA's

Restriction imposed on land disposal actions could have adverse economic impacts on private individuals and public entities that have proposed or applied for transfer of these lands for suitable purposes. Desert Land Entry, Carey Act, and Indian Allotment applications would not be accepted.

Outside DWMA's

The additional acreage available for disposal under this alternative would not result in any direct or immediate economic benefit, but would enhance the possibility of future potential for economic development.

Desert Land Entry, Carey Act, and Indian Allotment applications will not be accepted.

From Rights-of-Way Management

Within DWMA's

Designating the DWMA's as avoidance areas could affect the efficiency of planning for future energy, communication, and transportation facilities. Restrictions and route realignments would increase the costs of planning and permitting with longer processing time for rights-of-way applications. Alternative routes are also likely to entail higher utility rates. The increased costs would be borne by consumers throughout the Western States. Such potential additional costs cannot be estimated except on a case-by-case basis. Some utility companies might choose less restrictive or less costly routes, which could result in a proliferation of utility lines. If such alternative routes were to avoid Lincoln County, substantial tax revenues could be lost.

Outside of DWMA's

Section 7 consultation and mitigation fees would make permitting and construction of rights-of-way more expensive than in those areas where it is not required. Companies will take such costs under consideration in their analyses and in the establishment of their utility rates. Often such costs are not of sufficient magnitude to discourage development of the most efficient and effective route. Alternate routes and the obstacles they might encounter can also entail great costs. However, individuals and local governments sometimes find these costs to be prohibitive and forego a proposed project. Such consultation and mitigation fees have, in the past, created distrust for the Federal Government and provoked criticism from Lincoln County residents.

From Recreation Management

Within DWMA's

No economic gains or losses can be identified. No reduction in recreation visitor days is expected to occur. Indeed, the growing population in Clark County should have the effect of increasing recreation visitor days and associated expenditures.

While all public land recreation activities do contribute, in some measure, to the local economy, the associated expenditures represent less than 5 percent of any sector of the regional economy's income and the employment. Any potential gains or losses would not be sufficient magnitude to have any noticeable impact.

From Minerals Management

Within DWMA's

DWMA's would be closed to mineral entry. Within DWMA's any potential gypsum mine or producing oil field, as anticipated in Alternative C, could not occur. Any potential tax revenues would not be realized by Lincoln County, and the possible income and employment would not be generated throughout the period of closure. Mineral material pits would not be authorized and existing pits would be closed within DWMA's. While also abundant in the area outside of DWMA's, the cost of hauling mineral materials could be substantially increased, depending upon location and proximity to access and use. Transportation costs increase by about 25 percent for each doubling of the haul distance (Mine Cost Service, 1998). Distances range from 50 to 100 additional miles to available sources, with costs of 45 to 70 cents per mile.

Outside of DWMA's

Minerals development outside of the DWMA's could proceed as discussed in Alternative C. The potential gypsum mine and producing oil field could be developed in locations outside of the DWMA boundaries. Required mining plans of operations and section 7 consultation and mitigation would have a discouraging effect on smaller operations. However, in all such situations the decision to proceed will be based on estimated returns over costs. Such additional costs are usually incidental, not prohibitive, and may be found to exist, in one form or another, in most mineral exploration and development areas.

ALTERNATIVE C (NO ACTION ALTERNATIVE)

Alternative C (No Action Alternative) would continue management under the approved Caliente MFP and activity plan decisions. Management recommendations from the Recovery Plan would not be implemented. The MFP objectives and decisions have been maintained and updated to conform with current BLM regulations and policy. Biological opinions which have resulted from Section 7 consultations under the Endangered Species Act have also modified management direction for livestock grazing, wild horse and burro management, and OHV events in the MFP. This alternative, required by NEPA, serves as a baseline against which to compare the impacts of implementing the Proposed Action or alternatives.

Section 7 consultation on any federal action that may affect listed species would continue to be completed prior to the issuance of surface-disturbing land use authorizations. Other management constraints, including IMP for Wilderness Study Areas, could limit the scope and intensity of impacts related to surface disturbance.

SPECIAL STATUS ANIMAL SPECIES MANAGEMENT:**From Special Management Areas**

By not designating special management areas for the desert tortoise, the benefits of the management prescriptions identified for these areas would not be obtained and desert tortoise habitat would not improve. These would include management of these areas to eliminate, minimize, or mitigate surface disturbances and conflicting land uses within 754,600 acres of desert tortoise habitat, of which 244,900 acres have been designated as critical habitat by the USFWS. In addition, there would be no connectivity to special management areas in adjoining planning areas.

Human caused mortalities and illegal collection of desert tortoise would continue at their current rates. No increased emphasis on public awareness of the Mojave ecosystem through environmental education programs would occur.

From Forestry and Vegetative Products Management

The sale of seed from desert vegetation would be permitted on a case-by-case basis. Mitigative measures would be placed on the permit to reduce the threat of taking a desert tortoise and reduce the impacts to tortoise habitat.

From Livestock Grazing Management

Implementation of grazing Prescriptions 1 and 2 should maintain the present quality of desert tortoise habitat. Under Prescription 1, livestock would not be allowed to graze from March 1 to June 15 during the critical spring period for the tortoise, thus eliminating competition during the critical spring period. Under prescription 2 grazing maximum utilization limits of 40 percent (during spring and summer) would be set on the annual growth of key forage species making more forage available to the tortoise. However, without improvement in the quality of desert tortoise habitat, recovery efforts might not be successful and population trends could decline.

From Wild Horse and Burro Management

Wild horses and burros would be allowed to graze unrestricted in desert tortoise habitat. Impacts associated with wild horse and burro grazing include the potential for trampling of tortoise and burrows, increased forage

competition, and alteration of perennial vegetation (USFWS 1994a). This could result in a decrease in tortoise populations and the health of those populations.

From Lands Management

Impacts to desert tortoise and their habitat from land uses, such as rights-of-way and other surface disturbing activities, could occur. Increased raven predation could occur as new powerlines and other facilities increase roosting and nesting locations. Habitat loss, degradation, and fragmentation would occur, as well as direct mortality during construction activities. Mitigative measures, developed through Section 7 consultation, would minimize, but not eliminate, these impacts.

From Recreation Management

Casual OHV use

Uncontrolled OHV activities could increasingly impact the desert tortoise and its habitat over the life of the plan, although activity levels are currently very low in the planning area, due to the distances from major metropolitan areas. Use levels would be expected to increase as populations grow in Las Vegas and Mesquite, Nevada, as well as St. George, Utah. Many OHV uses could be displaced to Lincoln County, as other administrative units implement land use restrictions. Increases in use would be expected to remain small to moderate, due to the remoteness of the planning areas.

Organized OHV events

OHV use in desert tortoise habitat has been limited to approximately one organized event per year. Organized events have been limited to existing, maintained roads and restricted by the mitigation measures and special stipulations imposed under the USFWS Section 7 Biological Opinion on the Issuance of Special Recreation Use Permits in the Las Vegas District (USFWS File #1-5-95-F-237, USFWS, 1995b). (Special stipulations/mitigation measures are attached as **Appendix D**.) At current levels, based on data from prior OHV events, one tortoise could be killed approximately every 30 years, as a result of speed competitive events conducted within tortoise habitat (based on Section 7 Biological Evaluation #NV-054-95-009, 4/17/95 BLM, 1995). Based on the projected increases in the number of events conducted annually within the planning area, one tortoise would be expected to be killed every six years (if five events occurred annually). The monitoring data from previous OHV events may underestimate desert tortoise mortality. Other impacts to tortoise habitat associated with organized events would be expected to occur as a result of continued authorization. These would include soil compaction and erosion, creation of new roads and trails by spectators, and increased potential for harassment of tortoises.

General Recreation

By allowing permitted commercial events, organized non-OHV events, and unrestricted casual recreational use to continue within the planning area, impacts to the desert tortoise and its habitat could increase in intensity. These impacts could include mortality of desert tortoises above and below the ground, crushing of burrows, and habitat deterioration by crushing or killing vegetation. Permitted commercial, or organized non-OHV events, and casual recreational use of the planning area have been very limited in number. Given the current growth of surrounding population centers, use levels in the planning area could increase, causing greater impacts to desert tortoise and its habitat. Mitigation measures developed through Section 7 consultation would reduce, but not eliminate, the impacts on the tortoise and its habitat.

From Wilderness Management

The non-impairment criteria under IMP would continue to provide habitat protection for the 312,500 acres currently under wilderness review in the planning area. Meeting non-impairment criteria would limit the scope and intensity of surface disturbing activities, until congressional designation or release from wilderness consideration. Should these areas be released from further consideration as wilderness, increases in surface disturbing activities and vehicular use would be expected to occur causing degradation and fragmentation of tortoise habitat and increasing the potential for direct mortality due to these activities.

From Minerals Management

Exploration and extraction of locatable minerals, fossil fuels, geothermal resources, and other types of mineral resources could occur within desert tortoise habitat. Impacts resulting from these activities could include cross-country travel by vehicles during exploration phase; construction of roads; habitat fragmentation; destruction of the soil surface and vegetation for access to the mineral resources, production of toxic products and byproducts; development of small towns and settlements to support large mines; temporary oil and gas leases; permanent transfer of title of public lands to the private sector; refuse left from exploration and/or extraction; habitat loss/degradation; and direct mortality of desert tortoise both above ground and below ground by crushing burrows (USFWS 1994a). Mitigative measures, developed through Section 7 consultation, would be enacted (where in accordance with mining regulations) to lessen impacts on the desert tortoise and its habitat.

From Fire Management

Current fire suppression policy in desert tortoise habitat would include the use of resource advisors, yet does not require camp locations to be designated inside critical desert tortoise habitat. Education of suppression personnel on tortoise issues is generally conducted, yet not specifically required. Impacts to desert tortoise, including small amounts of habitat destruction, off road travel and the proliferation of new access routes, and the possibility of direct mortalities of tortoises could continue under this alternative.

SOIL RESOURCE MANAGEMENT

From Livestock Grazing and Wild Horse and Burro Management

Soil disturbances occurring as a result of grazing by domestic livestock, as well as wild horses and burros, would continue. An estimated 28,000 tons per year of dissolved solids are currently contributed from the Muddy River basin in Nevada to the Colorado River; the contribution from the planning area has not, to date, been quantified.

Approximately 283,000 tons per year of salt is currently contributed to the Colorado River from the Nevada portion of the drainage system; the contribution from the planning areas is not yet known. The amount of salt contributed to the Colorado River Drainage System from the desert tortoise habitat as result of grazing activities would continue at the present rate. Soil loss as result of OHV racing, mining actions would continue at current rates and possibly accelerate as a result of regional population growth and increased demands by public land users.

WATER/RIPARIAN RESOURCE MANAGEMENT

From Livestock Grazing and Wild Horse and Burro Management

Impacts to water and associated riparian resources would continue at the present level at 18 springs, as a result of continued grazing by large animals. Trampling and heavy use of springs and their associated riparian zones would continue at current levels. Degradation of sources and loss riparian habitat would continue at all unfenced springs in desert tortoise habitat. An unknown number of springs in desert tortoise habitat would be enhanced by fencing or other protective structures over the life of the plan; such activities would be dependent on funding and resource management priorities. Sediment and salinity contributions from Meadow Valley Wash to the Colorado River Drainage System would continue at present rates.

LIVESTOCK GRAZING MANAGEMENT

From Special Status Species Management

Livestock grazing would continue to be authorized within desert tortoise habitat, in accordance with the USFWS Biological Opinions (1991, 1994c) or in accordance with any future Section 7 consultations. Current management does not eliminate or reduce AUMs for any of the grazing allotments within the planning area. Grazing is eliminated between March 1 and June 14 and utilization limits (see "Constraints on Livestock Grazing" in this alternative for utilization limits) are imposed on all or portions of the following allotments:

Beacon	Grapevine	Rox-Tule
Breedlove	Henrie Complex	Snow Spring
Delamar	Lower Lake East	Terry
Grapevine	Mormon Peak	Sand Hollow
Gourd Springs	Pahranagat East	

The remaining allotments (Boulder Spring, Flat Top Mesa, Garden Spring, Jackrabbit, Lower Lake West, Pahranagat West, Pulsipher Wash, Summit Springs and White Rock) within desert tortoise habitat do not have a seasonal restriction, but utilization limits are imposed (see "Constraints on Livestock Grazing" for utilization limits).

Season of use restrictions and utilization limits impact management flexibility to promote a healthy sustainable rangeland ecosystem. The lack of flexibility could result in the permittees having to remove their livestock from the allotments or obtain forage elsewhere.

WILD HORSE AND BURRO MANAGEMENT

From Special Status Species Management

Wild horse and burro grazing would continue in the Mormon Mountains, Meadow Valley Mountains, and Blue Nose Peak HMAs at existing wild horse numbers until allotment evaluations are completed to establish AMLs, based on resource monitoring. Once AMLs are established, periodic removals would occur within the HMAs to maintain the herds at AML and manage wild horses and burros only within the boundaries of the HMAs. The capture and removal of wild horses and/or burros from outside of the boundaries of HMAs could be completed as needed over the life of the plan.

LANDS MANAGEMENT

From Lands Management

Lands would be provided as needed for urban and suburban expansion adjacent to planning area communities. Desert Land Entry applications would be evaluated and classified for agricultural suitability. Those classified as suitable for agricultural purposes would be allowed entry and could go to patent. Activities that could adversely affect tortoises may be limited to the period between October 15 to March 15, when tortoises are in hibernation. Minimal impacts to lands management would be anticipated as a result of implementation of this alternative.

This alternative could authorize the disposal of up to all designated critical tortoise habitat (244,900 acres), if the proposal conformed with direction contained in the Caliente MFP.

RECREATION MANAGEMENT

From Special Status Species Management

Casual OHV Use

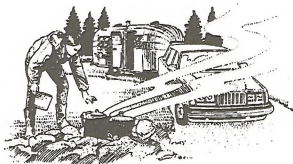
Data is generally unavailable on the types and intensity of casual OHV recreation uses in the planning area, but recreation use is estimated to be very light. Under this alternative, such uses would be anticipated to increase over the life of the plan, as regional metropolitan areas grow and recreational uses are dispersed to more remote locations. A total of 2,000 visitor days per year of casual OHV use is projected in the short term. A portion of the planning area is limited to existing roads and trails for casual OHV use; this designation would continue to have negligible impacts on recreational users, since the areas are not signed, no maps are available to indicate these locations, and agency presence in the area is very rare.

Organized OHV Use

Organized OHV use has historically been very limited in the planning area, with an average of one event permitted per year. An area in the Kane Springs Valley is designated to limit competitive events to existing roads for protection of the banded gila monster. This designation would continue to have minor impacts on users, potentially requiring course routing changes or other modifications. Section 7 consultation would continue to be completed for any organized OHV use not addressed by the USFWS Biological Opinion, developed for the issuance of Special Recreation Permits in desert tortoise habitat (USFWS 1995c). Stipulations attached to the Special Recreation Permits, as a result of Section 7 consultation, could require course changes or delays in the scheduling of events.

General Recreation Use

General recreation would be anticipated to continue at current levels and increase modestly over the life of the plan. The remoteness of the planning area from major urban centers would inhibit the growth of intensive recreational use. An estimate of 3,000 visitor days per year is projected; uses would continue to be casual, dispersed activities such as hunting, trapping, hiking, camping, horseback riding, and casual OHV riding.



RIGHTS-OF-WAY MANAGEMENT**From Special Status Species Management**

Management direction under this alternative would encourage power distributions lines of voltage higher than 69 kV, major pipelines, and cross country communication lines to locate adjacent to existing rights-of-way. All rights-of-way applications would be evaluated on a case-by-case basis. Power distribution lines of less than 69 kV, local telephone and cable lines, and access roads to private parcels, federal oil and gas leases, and mining claims would be granted to qualified applicants. Nevada Department of Transportation would be provided with Federal Aid Highway Act material site rights-of-way. Material site rights-of-way would be granted throughout the planning area, including within designated critical habitat. Section 7 consultation would continue to be conducted prior to any surface-disturbing land use authorizations and mitigation measures developed as terms and conditions of the grant. Designated critical habitat adjacent to an approximate 8-mile section of U.S. Highway 93 would be expected to be disturbed as material sites are authorized for highway maintenance. This activity may result in loss, degradation, or fragmentation of some designated critical habitat, as mitigated through Section 7 consultation.

MINERALS MANAGEMENT**From Special Management Areas**

Approximately 754,600 acres of desert tortoise habitat would remain open to mineral entry under standard terms and conditions and Standard Operating Procedures (Table 4-8). Leasing restrictions would apply only to the 2,880 acres near Mormon Peak Cave, as required by the approved Caliente MFP. Areas outside of any wilderness areas that might be designated by Congress would remain open to mineral entry. Section 7 consultations would continue to be required for any authorized surface-disturbing activities and mitigation measures developed to lessen any effects on desert tortoise and its habitat. Consultation requirements could cause delays in operations and could result in greater costs to proponents. This alternative would impose the fewest restrictions on mineral operations and would afford the greatest flexibility for minerals operations.

Table 4-8. Minerals Management Acreage-Alternative C.

	Open	Open with Restrictions	Closed
Locatable	754,600	0	0
Leasable	751,720	0	2,880
Mineral Materials	754,600	0	0

FIRE MANAGEMENT**From Special Status Species Management**

Full suppression tactics would continue to be employed, within the constraints imposed by IMP for wilderness study areas. Suppression costs would continue to be balanced with values at risk, in order to protect life, property, and resources. Fire management intensity and associated costs would not increase under this alternative.

ECONOMIC AND SOCIAL CONDITIONS

From Livestock Grazing Management

Future constraints that might be imposed upon livestock grazing, designed to achieve habitat objectives for desert tortoise, could result in adverse economic impacts to individual livestock grazing operations. The potential occurrence or extent of these effects would be variable and dependent upon future vegetative conditions and management decision criteria. The loss of each AUM, however, may be considered equivalent to \$4.50 in net ranch income (profit after all costs), and approximately \$50.00 in ranch capital asset value.

From Lands Management

The acreage available for disposal under this alternative would not result in any direct or immediate economic benefit, but would enhance the possibility of future potential for economic development. Desert Land Entry applications would be evaluated and classified as to their suitability or unsuitability for agricultural purposes. The current consensus of professional opinion regards Desert Land Entries as uneconomic unless an entry is developed by the owner of an adjacent existing agricultural operation with sufficient equipment and irrigation facilities to expand the operation. In almost all cases, it has been determined that, at current prices for existing developed agricultural land in Nevada, it is more economic, more profitable, and more feasible to purchase an existing agricultural property than it is to spend the time, money, and labor to develop a new, raw property.

Based on previous analyses, it is clear that, at least initially, the economic viability of a proposed operation may be marginal. But the net return over total costs must be sufficient to provide a profit. And such profit should be adequate to ensure the expectation of continued cultivation. Major considerations include initial capitalization for land and irrigation development costs and the possibilities of cash-flow problems. Problems related to the availability of sufficient cash when necessary are a matter of financial management skills, timing of events, and the entrepreneurial utilization of short-term borrowings. An additional, and potentially prohibitive, cost for this operation would be the necessary Section 7 consultations and mitigations for the protection of the Desert Tortoise. Even those entries that indicate a potential for economic viability demand good management and hard work to succeed. Such an application would bring at least 200 acres into production of an alfalfa crop, yielding about 4 tons per acre. A net return of about \$72.50 per acre, after costs, which would include a reasonable return for proprietor and hired labor, would be economically viable. This would yield a total net return of about \$14,500, which would be sufficient to assure continued cultivation and allow a margin for error to cover any additional annual amortization costs that might be necessary for land and irrigation development.

This operation would yield one full-time job within the county, and provide for the modest sustenance of one small family. However, in many such cases, one or more of the family members retains another full or part-time job. Lincoln County would realize some additional tax revenues from this enterprise, but oftentimes the tax revenues generated are not equal to the cost of community services and infrastructural requirements, such as schooling, that the agricultural family may require. Economic benefits to the county would likely be very small. Most of the tools and equipment would probably be purchased in St. George, Utah; and local expenditures would be incidental. Nevertheless, such an agricultural entry would provide one increment of development in an area where such development is regarded as useful and beneficial to the community.

Section 7 consultation and mitigation fees would make permitting and development of a Desert Land Entry more expensive than in those areas where it is not required. Other land disposals, as well, throughout the planning area would have to bear the additional costs associated with Section 7 consultation and mitigation requirements. In some cases these additional costs could be prohibitive to the proposal.

From Rights-of-way Management

The existence of designated corridors enables more efficient planning of future energy, communication and transportation facilities. A lack of such designated corridors, or the avoidance of existing corridors, engenders higher planning costs to utility companies and results in longer processing time for rights-of-way applications.

Section 7 consultation and mitigation fees would make permitting and construction of rights-of-way more expensive than those areas where it is not required. Companies will take such costs under consideration in their analyses. Often, such costs are not of sufficient magnitude to discourage development of the most efficient and effective route. Alternate routes and the obstacles they might encounter can also entail great costs. However, individuals and local governments sometimes find these costs to be prohibitive and forego a proposed project. Such consultation and mitigation fees have, in the past, created distrust for the Federal Government and provoked criticism from Lincoln County residents.

The planning area has three major power and communication transmission corridors as proposed in the Western Regional Corridor Study done by the Western Utility Group in 1986. Two of the three routes have existing major transmission facilities: a natural gas pipeline, 260 kV and 500 kV power transmission lines, and a fibre optic line. The other is encumbered with a right-of-way that has been granted for a 500 kV transmission line that has not as yet been constructed. Construction costs for these types of facilities range from \$250,000 to \$1,500,000 per mile. Although construction materials and a skilled workforce would likely be brought in from out of the area, Lincoln County would experience a short-term economic benefit from local spending of the workforce temporarily located there.

The Southwest Intertie Project, which plans to build a 500 kV power transmission line through the planning area estimates that it would pay \$4,935, per mile, to Lincoln County in property tax. Even with the additional costs of Section 7 consultation and mitigation, this project is expected to be completed as proposed. These costs, associated with a power transmission line, are not likely to be near as expensive as the costs of planning and analysis, and the additional mileage that might be involved, for alternative routes.

From Recreation Management

No reduction in recreation visitor days is expected to occur. Indeed, the growing population in Clark County should have the effect of increasing recreation visitor days and associated expenditures. Very limited restrictions on informal OHV use would not preclude such recreation, which is already largely confined to existing roads and trails. Such restrictions may, however, encourage the displacement of some of those activities to adjacent public lands outside of the Planning Area.

Formal OHV events might encourage some limited spectator recreation in the area, but this is undocumented. These events originate primarily in Clark County, and provide little economic benefit in either jobs or income to Lincoln County.

While all public land recreation activities do contribute, in some measure, to the local economy, the associated expenditures represent less than 5 percent of any sector of the regional economy's income and employment. Any potential gains or losses would not be of sufficient magnitude to have any noticeable impact.

From Minerals Management

Locatable Minerals

For locatable minerals, there are 68 active mining claims, with little mining activity. And the distance to potential markets renders production from such deposits with only marginal economic viability. Section 7 consultation and mitigation could add additional costs to any operation in the planning area, as well. However, the demand for construction materials due to booming development in the Las Vegas area offers a strong potential market for gypsum for fabrication of wallboard. Gypsum sells for about \$30 per ton, with a profit of about \$3 to \$5 per ton. Exploration is ongoing in the planning area at the rate of 8 to 10 operations per year for all types of locatable minerals. And, for purposes of analysis it is assumed that a small mining operation for gypsum may occur, totaling surface disturbance of approximately 75 acres.

Exploration activities would begin with 2 men and 1 truck, and include research and mapping. Exploratory drilling requires about 10 - 20 holes, and would take about 1 week to delineate parameters of the deposit. Drilling requires a separate crew of 4 people (1 driller, 2 steelmen, and 1 helper). The initial exploration and drilling crews are most likely to be the companies regular employees from outside the local area. The drill rig is truck mounted; equipment would also include one water truck and one access pick-up truck. Local area economic benefits would derive only from incidental expenditures for fuel, food, entertainment, and possibly lodging.

Open pit production for gypsum would last 2-3 years for a 75-acre pit. No construction would be involved in an open-pit operation, and all equipment is portable or semi-portable. Equipment would probably include one 3-trailer dump truck, two front-end loaders, and one bulldozer. The number of employees on-site would range from 7 to 9, and include one supervisor, one welder/repairman, one bookkeeper/office manager, and four to six equipment operators. All employees would most likely be the companies regular employees that are retained from operation to operation, and would live in trailers on-site, possibly returning to Las Vegas each weekend. It is possible that some local hiring in Lincoln County could result, but most of these mining operations prefer to retain, and provide work for, their regular hires. Local purchases would be minimal, consisting of gasoline, diesel fuel, and incidental tools and equipment. Some local expenditures would occur for food and entertainment. But economic benefits to the local area would be small. The state would collect up to a 5 percent Net Proceeds of Mines Tax, and Lincoln County would receive revenues from tax on possessory interest but there would probably be no property tax revenues to the county because there would be no capital improvements.

Fluid Minerals

The 26 oil and gas leases in the planning area, based on a broad favorable potential for oil and gas, have remained without exploration activities, either ongoing or proposed. However, for analytic purposes it is assumed that geophysical exploration would occur and that one producing oil and gas field would be developed. Section 7 consultation and mitigations could add costs to any operations in the planning area.

Very little, if any, direct local employment results from oil and gas exploration and development. All of the work entails considerable investment, planning, and preparation, and requires employees with specialized education, skills, and experience. Some of the workforce are regular full-time company employees, primarily supervisory; others may be consultants or contract-hires employed through the exploration companies' established sources.

However, very real, but small, indirect local income and employment may result from field crew expenditures for food and lodging, gasoline and tire purchases, and vehicle maintenance. Industry sources estimate daily local expenses to be \$200-\$300 per day.

Geological exploration usually occurs during a three-month summer field season, and may, on average, consist of three crews of from one to three geologists, each, doing general field and site specific evaluations.

Geophysical exploration may occur throughout the year, and consists of two distinct data gathering and analysis phases. The first, seismic acquisition, generally requires a crew of from 15 to 20 people, who will intensively work in the local area for two to three weeks. The second phase, gravity and magnetic acquisitions, involves a smaller crew, generally two men, and requires three to four months in the field. From time to time, the magnetic survey crew may need to hire a local pilot and aircraft. Expenditures in the local community are estimated to average about \$500 per day.

Exploratory drilling is conducted as a 24-hour per day operation, and generally requires two crews of five men each (1 driller, 3 assistants, and 1 "mud-logger"), plus a support group consisting of a "tool-pusher" and a company supervisor. The exploratory drilling crew, too, are non-local hires brought in with the equipment. These crews may or may not require local food and lodging, depending upon the location and conditions of the particular operation. Expenditures for food and lodging are estimated by industrial sources at \$500 per day for each crew.

Production royalties to the Federal Government are 12 1/2 percent of gross (priced at the well-head), with 50 percent of those proceeds distributed to the State of Nevada. The State would also receive taxes from net proceeds of mines, while the County would collect a tax on possessory interest. Based on potential production outlined in the development scenario, this would add an estimated \$3000 per year to County revenues.

Drilling a well may take anywhere from 3 weeks to (in extreme cases) 3 months to complete; with 1 in 10 to 1 in 16 wildcat wells successfully producing significant amounts of oil and gas.

The development, or production, phase generally employs two people who remain on-site on a 24-hour basis. One of these employees, the Pumper, may be hired locally; the other, the sales-representative (or bookkeeper) is ordinarily a company representative.

The majority of all equipment needs for the above operational phases are purchased non-locally from regional equipment suppliers to the industry, located in Bakersfield, California; Vernal, Utah; Denver, Colorado; or Rock Springs or Evanston, Wyoming. Incidental tool and equipment requirements may, of course, be purchased locally.

Generally, for the reclamation effort, the operators would employ temporary local labor and custom workers who possess the necessary heavy equipment to conduct the reclamation work attendant to abandonment of a site. Estimated costs for reclamation range from \$4,000 to \$10,000 per well pad.

The population, direct income, and employment effects of oil and gas operations in the local area, then, may be seen to be moderate, and insignificant in terms of the local economy. Local expenditures for food, lodging, entertainment, vehicle maintenance, gasoline, incidental tools, equipment, and supplies are also not sufficient to represent a significant contribution to the local economy; but do represent a part of the everyday transfer of goods and services that contribute to the regions economic health and viability. To individual operators of motels, restaurants, gas stations, etc., such expenditures may represent an important increment of their incomes.

Mineral Materials

Four minerals materials sites, for sand and gravel, are currently operating in the planning area. One pit is utilized to provide material for the maintenance of Highway 93. A private operation is conducted on a contract of sale basis, for which BLM receives a royalty on production. Contracts of sale are issued for a specific amount of materials to be extracted within a specified period of time. Local community use is assessed at 50 cents per ton, and free use is provided for public purposes.

Sole source contracts are awarded for separate pits for periods up to 10-years. The current private operation extracts about 30,000 tons per month for sale in the Las Vegas area. Free-use permits, for public purposes, and community pits are usually separate pits, but free-use operations may, from time-to-time, utilize the community pits. The State receives 4 percent of the revenues from sand and gravel sales for the State School Fund.

Sand and gravel sources are distributed widely throughout the planning area. It is projected that one new source would need to be developed, to satisfy growing demand, every 5 years, for a total of 5 additional pits over the 25-year period covered by this amendment. Should the sand and gravel requirements necessary to support the burgeoning growth of the Las Vegas area make it necessary to utilize mineral material sites in Lincoln County, it is estimated that up to \$1 million in sales could result.

POTENTIAL MITIGATION AND MONITORING

Mitigation Measures:

Issue: Water loss in tortoise habitat for other wildlife species from closure of grazing allotments.

Mitigation Measure 1: Construct wildlife guzzlers or catchments with tortoise exclusion devices to mitigate loss of water.

Effectiveness: This measure would provide water for wildlife species to offset the closure of grazing stock water locations.

Application: This measure would be applicable for the Proposed Action and Alternative B.

Impacts: Small amount of habitat loss due to construction of guzzler, no other impact.

Mitigation Measure 2: Maintain range improvements.

Effectiveness: This measure would provide for current range projects to be maintained and not removed from the area. These water sources would continue to be available to wildlife species.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Issue: Loss of tortoise from drowning in water developments.

Mitigation Measure 3: Retrofit existing wildlife guzzlers and catchments with tortoise exclusion devices to prevent drowning.

Effectiveness: This would reduce the mortality of desert tortoise.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Issue: Loss of desert tortoise habitat

Mitigation Measure 4: Implement immediate removal of wild horses and burros that establish home ranges within designated special management areas for desert tortoise.

Effectiveness: The removal of wild horses is needed to protect tortoise habitat. Removal of wild horses immediately would allow immediate recovery of desert tortoise and their habitat.

Application: This measure would be applicable for the Proposed Action and Alternative B.

Impacts: No additional impacts.

Mitigation Measure 5: Where possible, limit future disturbances to previously disturbed areas.

Effectiveness: The reduction of the amount of disturbance to habitat will protect desert tortoise.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Mitigation Measure 6: All disturbed areas will be reclaimed to provide for desert tortoise habitat.

Effectiveness: Offset the loss of surface disturbance activities with the reclamation of the site.

Application: This measure would be applicable for all Alternatives.

Impacts: There will be cases where the cost of reclamation could outweigh any habitat reclamation benefits received. Timing and low success probabilities may be an undue cost burden for bond holders. Management discretion and flexibility would be impaired if rigidly held to this standard in all cases.

Mitigation Measure 7: Assess remuneration fees for disturbance or loss of desert tortoise habitat.

Effectiveness: Offset the loss of habitat from surface disturbance activities with monies to be used in preserving desert tortoise.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Issue: Vegetation

Mitigation Measure 8: Aerial seed native species of tortoise preferred vegetation during periods of winter moisture within special management areas in suitable tortoise habitat.

Effectiveness: The seeding will allow native species to grow with moisture and provide forage vegetation to tortoises during active periods. However, this measure would be limited since the probability for seeding success is very low in desert ecosystems.

Application: This measure would be applicable for the Proposed Action, Alternative A and Alternative B

Impacts: Possible increase in forage for desert tortoise.

Mitigation Measure 9: Establish EMZs where management techniques are developed to replace non-native annuals with native perennials.

Effectiveness: The removal of non-native vegetation would allow better forage habitat for the desert tortoise.

Application: This measure would be applicable for the Proposed Action, Alternative A and Alternative B.

Impacts: No additional impacts.

Issue: Predators

Mitigation Measure 10: Install effective anti-perching devices on all transmission towers and pole line structures within tortoise habitat.

Effectiveness: Eliminate perching areas from which avian predators can prey on tortoise.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Mitigation Measure 11: BLM will initiate procedures to clean up dumps.

Effectiveness: Reduce food sources for predators that could prey on tortoises during the active periods.

Application: This measure would be applicable for all Alternatives.

Impacts: Additional surface disturbance as result of clean up.

Mitigation Measure 12: In cooperation with landfill operators, State and Federal regulatory agencies, establish measures to prevent raven and coyote use of garbage as a food source.

Effectiveness: Reduce the number of predators that could use tortoise as a prey.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Mitigation Measure 13: Encourage the county and state highway departments to clean up dead animals, e.g., jackrabbits along roads and highways in order to make this food source unavailable for ravens and coyotes.

Effectiveness: Reduction of alternate food sources that support predators during tortoise inactive season. This would reduce the number of tortoise killed for prey.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Issue: Education

Mitigation Measure 14: Education of workers for events and construction projects in tortoise habitat.

Effectiveness: Protection of the tortoise would occur from enhanced overall understanding of the recovery program.

Application: This measure would be applicable for all Alternatives.

Impacts: No additional impacts.

Issue: Fire

Mitigation Measure 15: Use green-stripping and/or firebreaks in or around critical tortoise habitat to help prevent spread of wildfire.

Effectiveness: Reduce the amount of acreage that can be damaged from wildfire. More forage available for tortoise.

Application: This measure would be applicable for all Alternatives.

Impacts: Short term losses of cover. Increased costs for revegetation. Limited success of revegetation due to lack of precipitation. Temporary habitat disturbance if drilling is used.

Mitigation Measure 16: Rehabilitate wildfires with native species that are desirable forage for desert tortoise.

Effectiveness: The seeding will allow native species to grow with moisture and provide forage vegetation to tortoises during active periods. However, this measure would be limited since the probability for seeding success is very low in desert ecosystems.

Application: This measure would be applicable for all Alternatives.

Impacts: Cost of this measure would be high relative to the limited success anticipated.

Monitoring:

Monitoring of tortoise habitat conditions would continue to determine effectiveness of the management prescriptions. Also see the section labeled monitoring beginning on page 2-8 of this document.

Monitoring OHV uses, direct and indirect effects on the tortoise and habitat would occur in coordination with an interagency team (adjoining BLM Districts, USFWS, NDOW, MOG, and research institutions).

Census wild horse and burro populations within the planning area to determine wild horse and burro use within ACECs/DWMAs following removal activities, and to monitor population levels within HMA boundaries but outside of ACEC/DWMA boundaries. Monitor wild horse and burro utilization levels within HMAs to determine if identified AMLs are still representative of management objectives for each HMA within the planning area.

Monitoring of livestock grazing will occur on those areas outside of ACECs. Monitoring will be in accordance with BLM's policy and technical procedures.

Monitoring of mineral operations would occur before, during, and after operation and continue yearly until reclaimed. Each operation would be reviewed yearly and depending on the mineral program requirements more often.

RESIDUAL ADVERSE EFFECTS

UNAVOIDABLE ADVERSE IMPACTS

Implementation of the desert tortoise habitat protection measures and the potential mitigation measures identified earlier would reduce most adverse impacts that would result from the Proposed Action or alternatives. Those unavoidable adverse impacts that would remain are summarized below. Table S-2 provides a summary comparison of impacts among alternatives.

Soils

No unavoidable adverse impacts.

Vegetation

No unavoidable adverse impacts.

Wild Horses and Burros

Required management for zero wild horses and burros on 1-2 herd areas, depending on the alternative selected, resulting in the permanent loss of 20-75 wild horses and burros.

Land Uses

Closure of grazing allotments, depending on the alternative selected.

Reduction of up to 5,877 AUMs of livestock use within the planning area, depending on the alternative selected.

Closure of up to 92,300 livestock use acres depending on the alternative selected.

Closure of up to 214,700 livestock non-use acres depending on the alternative selected.

Loss of 15,000 acres of desert tortoise habitat outside of SMAs through land disposal.

Minerals

Closure of 65,900 acres to mineral entry and development under Proposed Action.

Closure of 307,000 acres to mineral entry and development under Alternative B.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Designation of ACECs or DWMA's could result in either the irreversible or irretrievable commitment of certain resources. Irreversible commitment of resources for the purposes of this section has been interpreted as a term that describes the loss of future options. Irretrievable commitment of resources has been interpreted to mean the loss of production, harvest or use of natural resources, or those resources once committed to the proposal would continue to be committed until the desert tortoise population is recovered. For example, livestock forage production within a Special Management Area is lost irretrievably (as livestock forage) while the area is being

managed for the benefit of desert tortoise. That forage loss is irretrievable but the action is not irreversible. When the tortoise population recovers, it may be possible to resume livestock forage production. These commitments are summarized in Table 4-9.

Table 4-9. Irreversible and irretrievable commitments of resources.

Resource	Irreversible Impacts	Irretrievable Impacts ¹	Explanation
Wildlife Habitat and Special Status Species	No	No	Habitat destruction would not be allowed in SMAs and mitigated outside SMAs.
Forestry and Vegetative Products	No	Yes	Annual production of Vegetative products could not be harvested within SMAs.
Livestock Grazing Management	No	Yes	Livestock grazing would not be allowed in SMAs. Forage resources could not be utilized by livestock grazing in SMAs. Conversion from cattle to sheep will not be allowed within the planning area.
Wild Horse Burro Management	No	Yes	Horses removed and AML set at zero in SMAs until Desert Tortoise population recovery. Forage resources could not be utilized in SMAs.
Lands Management	No	Yes	Exclusion of residential, business, agricultural and public infrastructure development within SMAs and highly restrictive outside SMAs.
Right-of-Way Management	No	Yes	Routes and corridors would be restricted within SMAs. Material sites would be unavailable within SMAs.
Recreation Management	No	Yes	Organized events restricted and routes limited.
Wilderness Management	No	No	WSAs will be managed in accordance with IMP.
Minerals Management	No	Yes	Mineral material sales will be restricted within SMAs. Kane Springs ACEC would be withdrawn from mineral entry.
Fire Management	No	No	Prescribed fires may be allowed within SMAs.

¹ These resources have irretrievable impacts only to the extent that the SMAs require restrictions. Once the tortoise populations recover it is possible that some of the restrictions will be lifted or lessened, hence be reversible.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term is defined as the life of the plan (25 Years); long-term is defined as the future beyond 25 years. The different alternatives could cause some uses to be altered, reduced or eliminated to varying degrees until the desert tortoise is recovered and delisted. Livestock grazing would not be authorized in special management areas (ACECs or DWMA) under the Proposed Action and Alternative B (DWMA Alternative). Alternative C (No Action Alternative) would manage livestock grazing under the terms and conditions of Biological Opinions issued by the USFWS. Wild horse use would be eliminated in the special management areas under all alternatives except Alternative C (No Action). Mining activities would be restricted under the Proposed Action and Alternatives A and B; more restrictions would occur under Alternative B. Grazing restrictions and closures would enhance vegetative community diversity and productivity in the long term. Mineral productivity is not expected to be impacted under the Proposed Action, Alternative A, or Alternative C. Mineral productivity would be reduced or delayed until after the life of the plan (25 years), under Alternative B.

ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

The basic energy requirements cannot be determined specifically for each alternative due to the variability of potential activities. But based on the stipulations and restrictions applied on each alternative, energy requirements can generally be identified. Alternative C (No Action Alternative) would potentially use the most energy, based on fewer restricted uses. Minerals, recreation and lands activities would use fuels and electricity to complete their authorized activities. The least amount of energy would be required under Alternative B (DWMA Alternative) since many land use authorizations would be restricted throughout the approximately 307,000 acre DWMA. Alternative A (Habitat Management Alternative) and the Proposed Action would require fuels and electricity at levels between the other alternatives.

CUMULATIVE IMPACT ANALYSIS

INTRODUCTION

Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts could result from individually minor, but collectively significant actions, taking place over a period of time (Council on Environmental Quality, Regulations for Implementation of NEPA, 1508.7).

This section identifies past, present, and reasonably foreseeable future actions so that their contribution to cumulative impacts toward recovery of the desert tortoise can be considered. Past actions are those that have been completed to date, present actions may have been started in the past but are ongoing and not completed yet, and future actions are anticipated but have not yet begun.

This analysis of cumulative impacts considers the connected actions of BLM and other agency efforts to implement the goals and objectives of the Recovery Plan within the Northeastern Mojave Recovery Unit (see Map 4-1).

Certain land jurisdictions, or programs, consisting of the Washington County HCP, Pahrangat National Wildlife Refuge, Las Vegas Piute Reservation, Bureau of Reclamation, Spring Mountain National Recreation Area, Utah State Lands, Arizona State Lands, and California State Lands include insignificant amounts of the tortoise habitat within the Northeastern Mojave Recovery Unit and are inconsequential to the analysis or to the decision to be made. Therefore, their contribution to cumulative impacts will not be considered further.

ASSUMPTIONS FOR ANALYSIS

Certain assumptions are necessary for analysis. These assumptions help form the basis for the Reasonably Foreseeable Future Actions (RFFA) projections, and may also suggest areas for needed research.

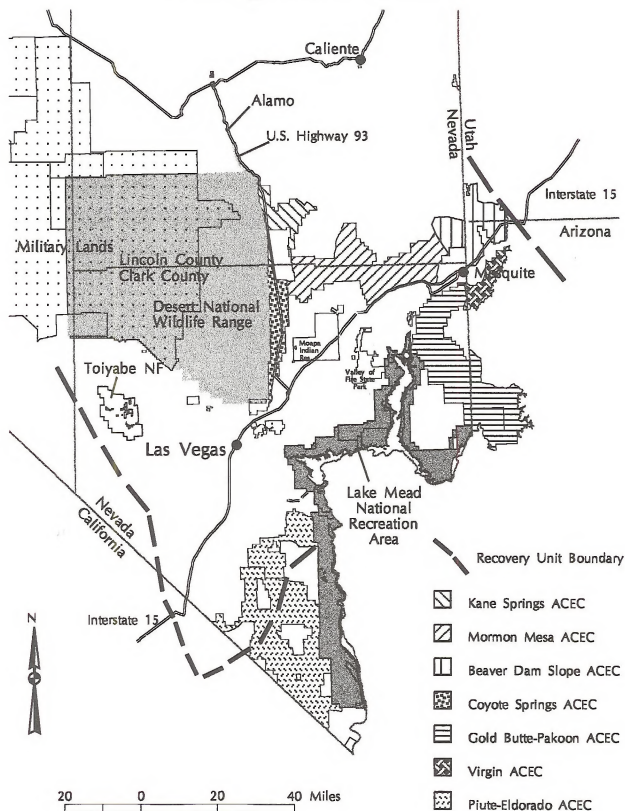
Approximately 1.5 million acres of BLM Wilderness Study Areas (WSAs) are within the Northeastern Mojave Recovery Unit. The Desert National Wildlife Range also includes a proposed wilderness area. Management of these WSAs and future designated wilderness have implications for management of the desert tortoise (see Wilderness Analysis in Chapter Four). It is assumed that these areas will remain in a WSA status until after the ongoing BLM Tortoise EA/EIS/Land Use Plans within the Northeastern Mojave Recovery Unit are finalized. While Congress could eventually designate none, all or even areas outside of WSAs as wilderness, it is assumed for analysis purposes that the congressional wilderness designations will include portions of these WSAs below 4,000 feet in elevation which contain tortoise habitat.

For the BLM land use plans or amendments in progress within the Northeastern Mojave Recovery Unit (Las Vegas, Caliente, Tonopah, Dixie, and the Arizona Strip) it is assumed that the ultimate decision will be the current agency preferred alternative or the agency proposed action.

Desert tortoise habitat consists of all portions of the Northeastern Mojave Recovery Unit below 4,000 feet in elevation with suitable vegetation present.

It is assumed that the human population within the Northeastern Mojave Recovery Unit will continue to grow; at a rapid rate within the urban areas and at a slower rate in the rural areas.

Northeastern Mojave Recovery Unit Proposed Desert Tortoise Management Areas



It is assumed that recreational use of the desert environments will continue to grow as a direct result of the increase in human populations and the increase in sales and use of Off Highway Vehicles (OHVs).

Based on projections in the Las Vegas District RMP and considering the size and extent of the Northeastern Mojave Recovery Unit, it is assumed that about 170,000 acres of public lands within the Northeastern Mojave Recovery Unit will be transferred into private ownership during the life of the plan. Of the 170,000 acres it is assumed that 80% would be within tortoise habitat.

It is assumed that all 113,900 acres of private land authorized to be developed during the 30 year life of the Clark County Habitat Conservation Plan (HCP) will be developed.

AREA OF ANALYSIS

The area of analysis for cumulative impacts is the Northeastern Mojave Recovery Unit (see Map 4-1). This is the appropriate area of analysis since the USFWS will evaluate tortoise population recovery on a Recovery Unit basis. "Recovery units are considered distinct population segments and may be individually delisted if they meet the recovery criteria." (USFWS, p. 43, 1994a) This includes portions of four states (Utah, Arizona, Nevada and California), six BLM Districts, USFWS Desert National Wildlife Refuge, Department of Energy (Nevada Test Site), and Department of the Air Force (Weapons and Tactics Center Range Complex) and a variety of other land administrations. The Northeastern Mojave Recovery Unit was identified by the USFWS based on genetic, morphological, ecological and physiological similarities among the desert tortoise.

A total of 6.4 million acres has been designated by the USFWS as critical habitat for the Mojave population of the desert tortoise. Approximately 1.5 million acres of this designated critical habitat occurs in the Northeastern Mojave Recovery Unit. Of this, 1.2 million acres of the critical habitat is in Nevada. Of this, approximately 846,000 acres of the designated critical habitat in Nevada is within the Northeastern Mojave Recovery Unit. In Nevada, the majority (approximately 87%) of the total desert tortoise habitat is managed by the BLM.

The Northeastern Mojave Recovery Unit includes the Gold Butte-Pakoon, Mormon Mesa, Beaver Dam Slope, Coyote Spring, the eastern third of the Ivanpah and the northern third of the Piute-Eldorado DWMAs as proposed in the USFWS Recovery Plan (see Map 4-1). While the Northeastern Mojave Recovery Unit is the area of analysis, tortoise habitat is assumed to only occur below 4,000 feet in elevation within the area. Therefore, actions or projects above this elevation would not directly affect tortoise or its habitat but could result in indirect effects.

TIMEFRAME FOR ANALYSIS

The timeframe for impact analysis for this LUP Amendment is 25 years, which represents one tortoise generation.

The appropriate timeframe for cumulative impact analysis defines how far into the past and how far into the future additive impacts will be considered. The appropriate timeframes for cumulative impact analysis varies by impact or resource consideration. For example, while the Northeastern Mojave Recovery Unit has been grazed by domestic livestock since the mid 1800s, the explosive human population growth in the Las Vegas Valley is a relatively recent development.

It is recognized that the cumulative impact of recovery of the desert tortoise which could result from the combination of proposals in the Northeastern Mojave Recovery Unit, would likely extend beyond the life of the plan.

RELEVANT PAST, PRESENT AND REASONABLY FORESEEABLE FUTURE ACTIONS**Introduction**

Past, present and reasonably foreseeable future actions which impact management of desert tortoise or their habitat must be identified so that their contribution to cumulative impacts in the Northeastern Mojave Recovery Unit can be considered. Certain actions have been administrative or planning in nature and did not, by themselves, directly impact desert tortoise, but they are identified since they could have indirect impacts by providing management direction.

Quad-State County Government Coalition

Eight counties, (including Lincoln County) in four southwestern states, have founded the Quad-State County Government Coalition. "The coalition will seek to overturn the desert tortoise 'critical habitat' designation and to stop enforcement of the Tortoise Recovery Plan, efforts which the counties argue go too far and tie up too much otherwise useable land." (Las Vegas Review Journal, March 23, 1998).

Catron County Ruling on NEPA Compliance for Designation of Critical Habitat

The Catron County Tenth Circuit Court of Appeals ruling, issued February 2, 1996 (No. 94-2280) determined that the USFWS is required to comply with the National Environmental Policy Act when designating critical habitat for threatened species. This was not done for designation of critical habitat for the desert tortoise. The parts of the Northeastern Mojave Recovery Unit which are in Utah and Arizona are within the jurisdiction of the Tenth Circuit Court. The other parts of the Northeastern Mojave Recovery Unit are within the jurisdiction of the Ninth Circuit Court of Appeals which ruled in Douglas County, Oregon vs. Babbitt that the USFWS did not have to comply with NEPA when designating critical habitat.

U. S. Supreme Court Ruling on the Endangered Species Act

The U.S. Supreme Court ruled unanimously on March 18, 1997 that people whose economic interests are affected by actions taken to protect endangered species may sue under the Endangered Species Act to stop what they view as overregulation. Property owners affected by decisions made under the Act now can challenge in court under the Act whether those decisions were properly made and necessary to protect a species from extinction. People who suffer economic harm as a result of efforts to protect endangered species have standing to sue under the Act.

Protection Under State Laws

The desert tortoise has been classified in Nevada as protected since 1969 (NRS 501.110).

The Arizona Game and Fish Commission extended full protection from take to the desert tortoise effective January 1, 1988.

The California Fish and Game Commission listed the desert tortoise as a state threatened species on June 22, 1989.

In Utah the desert tortoise is considered a "prohibited reptile" and is protected from collection, importation, transportation, possession, sale, transfer or release.

BLM

In November of 1988 the BLM published their "Desert Tortoise Habitat Management on Public Lands: A Rangewide Plan". This Plan which considered the tortoise habitat in Nevada, California, Utah and Arizona identified management actions and goals meant to prevent "listing" of the tortoise. This Rangewide Plan required that BLM categorize all tortoise habitat in regard to four pertinent criteria. The BLM has categorized tortoise habitat in Nevada into 341,400 acres of Category I, 643,600 acres of category II, and 1,704,800 acres of Category III. The BLM committed to maintaining viable populations in category I and II habitats and identified objectives and management actions to benefit tortoise and protect their habitat. This plan, however, "does not address site-specific, population-specific, or individual on-the-ground management actions." In spite of this BLM effort, the Mojave tortoise population was listed as threatened approximately one and one half years later.

Due to the listing of the desert tortoise as a threatened species and through consultation with the USFWS, the Las Vegas Field Office of the BLM established a policy prohibiting speed OHV events in category I and II tortoise habitat, with a few minor exceptions.

Due to the listing of the desert tortoise, BLM initiated Section 7 consultation on the Bureau's livestock grazing program in desert tortoise habitat. Section 7 requires Federal agencies to: 1) Consult with the Service on discretionary actions that may affect listed species, and 2) assist in recovery of listed species. Federal agencies then review their activities and when consultation is necessary, prepare a biological assessment or evaluation which evaluates the affects of the agency -proposed action on the listed species and designated critical habitat. This is then submitted to the Service, which 1) determines whether the proposed action will jeopardize the listed species or adversely modify designated critical habitat, and 2) prepares and issues a biological opinion. Full Force and Effect grazing decisions (69) were issued from January 1992 to March 1993 to implement the Biological Opinion pursuant to Section 7 of the Endangered Species Act. Approximately 70 additional full force and effect decisions have been issued since the first set of 69. These decisions prohibited livestock grazing from March 1 to June 14 in all Category I and II and III Intensive desert tortoise habitat. In category III non-intensive desert tortoise habitat grazing is restricted by percent utilization and not by season of use.

The 20,800 acre Beaver Dam Slope ACEC in Arizona was established by the BLM in 1992 to protect sensitive tortoise habitat.

The Desert Tortoise Conservation Center was established pursuant to a \$2.5 million research program under a Section 10(a)(1)(A) research permit as part of the Las Vegas Suit Settlement Agreement in March 1991. The Center is owned and operated by the Bureau of Land Management which also coordinates all research activities at the facility. Research is primarily focused on information which will help the long-term survival of the tortoise in the wild. Research completed at the Center between 1991 and 1993 included Desert Tortoise Physiology, Behavior, and Reproduction; Reproductive Biology; and Cause and Transmission of Upper Respiratory Tract Disease.

Opportunities for tortoise habitat acquisition through land exchanges or other means in Nevada have been limited because of a lack of significant private tracts within key desert tortoise habitat areas.

A wide variety of activities on public lands in Clark County have undergone Section 7 consultation. These have resulted in take of tortoise and the loss of habitat. There have been few Section 7 consultations for desert tortoise in Nevada outside of Clark County.

BLM and the State Trust Administration in Utah have exchanged State lands that possess critical habitat for the Desert Tortoise with public lands that would enhance Utah's future urban development needs.

In reference to the California portion of the Northeastern Mojave Recovery Unit the USFWS states, "Thus, BLM has a 13-year history of considering virtually all desert tortoise habitat as significant and important in this region." (USFWS, p. 39, 1994a)

The BLM manages over 3.5 million acres of the approximately 5 million acres of desert tortoise habitat in Nevada. The BLM is cooperating with NDOW and the Biological Resources Division (BRD) of the USGS in the ongoing monitoring of tortoise study plots in order to collect trend information (censusing of desert tortoise study plots is done by qualified biologists). Routine law enforcement patrols are done which protect the tortoise. The BLM, throughout the Northeastern Mojave Recovery Unit covering portions of four states, is amending their Land Use Plans to implement the goals and objectives of the USFWS Recovery Plan for the Desert Tortoise. There are four other BLM planning efforts which have been completed. The BLM has completed the Las Vegas RMP, the Tonopah RMP, the Arizona Strip RMP amendment, and the Dixie RMP; all of which propose Special Management Areas for tortoise and management actions to implement the goals and objectives of the USFWS's Recovery Plan. These are being coordinated for consistency in regard to the implementation of the goals and objectives of the Recovery Plan by the BLM Arizona Strip Field Office.

Ongoing BLM actions include monitoring livestock grazing, monitoring vegetation condition and trend, routine law enforcement patrols and full suppression of wildfires in tortoise habitat.

Tonopah RMP

The Nevada Tonopah Field Station of the BLM manages 70,600 acres of tortoise habitat in the Northeastern Mojave Recovery Unit. They have completed an RMP and FEIS which was approved on October 6, 1997. In the LUP it is proposed to maintain population numbers of desert tortoise, restrict grazing to be consistent with the Biological Opinion, and limit vehicle use to existing roads and trails within all 70,600 acres of tortoise habitat. Approximately 30,000 acres of known desert tortoise habitat is identified for disposal.

Dixie RMP

The Dixie Draft RMP was published in Draft in October 1995. The Dixie Field Office manages desert tortoise habitat within the Northeastern Mojave Recovery Unit. The Beaver Dam Slope portion of the Dixie Field Office contains a population of desert tortoise which are within the Northeastern Mojave Recovery Unit. Under the preferred alternative the BLM would acquire up to 16,000 acres, partially within the Northeastern Mojave Recovery Unit, of some of the highest quality desert tortoise habitat in Washington County. There could be up to 6,205 acres of additional surface disturbance in the Beaver Dam Slope area from powerline and pipeline construction from ROWs already issued. There would be additional surface disturbance from mining on 800 acres within the 63,630 acres of high mineral potential areas in the Beaver Dam Slope but are outside of the ACEC and tortoise habitat. Also, 83,765 acres outside of the proposed corridors within the Northeastern Mojave Recovery Unit would be established as ROW avoidance and exclusion areas. Approximately 2,000 acres in the Beaver Dam Slope Area would be withdrawn from mineral entry. Spring grazing would be deferred on 61,150 acres of desert tortoise critical habitat in the Beaver Dam Slope Area. All desert tortoise habitat in the Beaver Dam Slope Area would be limited to designated roads for OHV use. No off-road vehicle use for fire suppression would be allowed in the Beaver Dam Slope.

Arizona Strip Land Use Plan Amendment

The Arizona Strip contains 300,000 acres of tortoise habitat in the Northeastern Mojave Recovery Unit. Their Land Use Plan Amendment for the purposes of incorporating the goals and objectives of the Recovery Plan has been completed and the Decision Record signed in December of 1998. The Amendment designates three ACECs (169,160 acres) to be managed primarily for recovery of the desert tortoise. One of these ACECs, the Beaver Dam Slope, is adjacent to ACECs being considered in the Caliente Land Use Plan Amendment.

Las Vegas District RMP

In October of 1998, the BLM issued the Record of Decision for the Las Vegas RMP for management of 3.3 million acres of public lands in Clark and Southern Nye Counties. Four areas of Critical Environmental Concern were established for management of the desert tortoise. These four areas totaled 1,005,031 acres. The Mormon Mesa and Coyote Springs ACECs, are adjacent to ACECs being considered in the Caliente Land Use Plan Amendment. Part of their objective is to maintain functional corridors of habitat between ACECs to increase the chance of long-term persistence of desert tortoise populations within the recovery unit.

Activity Plans

All desert tortoise habitat in Arizona is within the Arizona Strip BLM Pakoon Basin Habitat Management Plan, a cooperative Sikes Act document written by the BLM and the Arizona Game and Fish Department.

In June 1992, a Piute-Eldorado HMP (which included a portion of the Northeastern Mojave Recovery Unit) was prepared by the BLM Las Vegas Field Office in cooperation with the NPS, Nature Conservancy and NDOW. It proposes management plans and policies for about 430,000 acres in the Eldorado, Cottonwood and Piute Valleys. It is not yet finalized and approved.

Management established in the Piute/Eldorado DWMA under the Clark County Short-Term HCP will be carried forward into the Las Vegas RMP as valid existing management. Grazing allotments currently under non-use status would be closed to grazing. OHV designations would be set in the plan, replacing an interim closure which is currently in effect.

USFWS

On August 20, 1980 the USFWS determined the Beaver Dam Slope population of the Desert Tortoise to be threatened and also designated 35 square miles of critical habitat.

In August of 1989 the Mojave population of tortoise north and west of the Colorado River was listed as endangered by the USFWS under emergency rule. Emergency listings are only effective for 180 days and the desert tortoise (Mojave population) was listed as threatened under the normal listing procedure in 1990.

In January 1993 environmental organizations sued the USFWS for not designating critical habitat pursuant to the 1990 Federal listing of the desert tortoise as a threatened species throughout its range in the Mojave Desert (north and west of the Colorado River). As a result of this suit, the USFWS designated critical habitat for the listed populations of desert tortoise on February 8, 1994. Of the acreage designated, 846,000 acres of critical habitat were designated within the Northeastern Mojave Recovery Unit. Critical habitat was not designated within the Lake Mead National Recreation Area nor the Desert National Wildlife Refuge because land management practices already provided sufficient protection.

The Recovery Plan for the Desert Tortoise was completed in June 1994. The Plan provided direction to land management agencies on geographic areas to be protected for the tortoise and management prescriptions for these areas. The objective of the Recovery Plan is the recovery and delisting of the desert tortoise.

The USFWS is working with the BLM and other land management agencies to implement the goals and objectives of the Recovery Plan for the Desert Tortoise. They are also doing informal and formal Section 7 consultations on proposed surface disturbing activities within desert tortoise habitat in the Northeastern Mojave Recovery Unit. The Service has a contract with the Nature Conservancy to develop site-specific management plans for the DWMA's in Nevada and to retrofit the fence along Highway 95 with tortoise-proof fencing. Section 7 funding has been authorized for purchase of grazing allotments, a monitoring program and signs for tortoise management areas, removal of burros, a public education program, testing tortoise for exposure to upper respiratory tract disease prior to release, a study of barrier effectiveness, data development and habitat restoration.

The USFWS will revise critical habitat in the future as land management plans, recovery plans, or other conservation strategies are developed and fully implemented and reduce the need for the additional protection provided by critical habitat designation.

All habitat disturbing activities which may affect desert tortoise on Federal land, or involving Federal funds, within the range of the desert tortoise will undergo a section 7 consultation with the USFWS and the subsequent "terms and conditions" of the biological opinions will be incorporated in the decision document and the permit or grant issued. In a January 26, 1996 memorandum the USFWS recommended inclusion of a \$587.00 per acre compensation fee for disturbance of tortoise habitat outside of tortoise ACECs/DWMA's and critical habitat. Alternative compensation measures are sometimes accepted on a case-by-case basis.

Clark County Short Term and Long Term Habitat Conservation Plans

In July 1991 the Short-Term Habitat Conservation Plan for the Desert Tortoise in Las Vegas Valley, Clark County, Nevada (short-term HCP) was approved. It allowed incidental take of 3,710 tortoise on 22,352 acres in the Las Vegas Valley for a period of three years. Prior to habitat disturbance, a survey and removal of desert tortoise was required. In July 1994, an amendment to the permit was issued that increased the acreage to 30,352 and extended the period by one year. On August 1, 1995 the Service issued Clark County a long-term 30-year Incidental Take Permit and approved the accompanying Desert Conservation Plan. The long-term permit extended coverage county-wide.

In 1991 a tortoise management area was established in Piute and Eldorado Valleys in southern Nevada. This tortoise management area was established through the implementation of the Clark County Short-Term Habitat Conservation Plan which allowed for the incidental take of desert tortoise and their habitat in the Las Vegas Valley. In order to qualify as conserved habitat, certain land-use controls had to be implemented by the Land Management Agency. This included the removal of livestock from the area, restriction of vehicles to designated roads and trails and further limitations on commercial and competitive OHV events and the hiring of a law enforcement officer. The BLM and NPS established an area including approximately 541,000 acres of conserved habitat. Of this about 139,500 acres is within the Northeastern Mojave Recovery Unit. Most of the conserved habitat was designated as critical habitat by the USFWS.

In 1995 Boulder City acquired 107,500 acres of Public Lands under the authority of the Eldorado Valley Transfer Act. In conjunction with this purchase Clark County acquired a conservation easement on approximately 85,000 acres of the purchased lands. The conservation easement requires that the covered lands be managed consistent with the Recovery Plan for the conservation of desert tortoises and other species as

identified in Clark County's Desert Conservation Plan. This conservation easement is contiguous to the proposed Piute/Eldorado ACEC and tortoise habitat on Lake Mead NRA.

Under the HCP, the BLM agreed to manage public lands in which Clark County acquired the grazing privileges on a willing seller basis as part of a "Tortoise Management Area" (TMA) for the conservation of desert tortoises. From 1991 to 1994 Clark County, through an agreement with the Nature Conservancy, acquired three grazing allotments (Christmas Tree Pass, McCullough Mountain and Jean Lake) of which the first three listed became the foundation for the establishment of the TMA in the Piute/Eldorado Valley. Ireteba Peak and Crescent Peak Allotments were subsequently purchased by the Nature Conservancy to be managed as a TMA in conjunction with the allotments acquired. As a signatory to the Implementation Agreement for implementing the Short Term HCP, the BLM agreed to: 1) allow nonuse of the allotments for conservation reasons; 2) implement a road closure by designating certain roads and trails as open and closing others; 3) not approve competitive, commercial, or organized events within the TMA (except for parts of Eldorado Valley); 4) not allow additional landfills to be established within the TMA; 5) not take any action which would increase the recreational activities within the TMA; and 6) otherwise manage the TMA on public lands for the conservation of desert tortoises. These conservation actions were to be incorporated into the Las Vegas RMP once approved.

Since the creation of the first TMA which includes land managed by both the BLM and the NPS's Lake Mead National Recreation Area, approximately 541,000 acres are currently being managed for the conservation of desert tortoises including 373,500 acres managed by the BLM. Approximately 139,500 acres of this occurs within the Northeastern Mojave Recovery Unit.

Since approval of the Short Term HCP in 1991, the BLM has implemented all of the required actions except for the mining claim validation.

Three interim road closures were implemented between December 1992 and July 1994. The OHV designations were changed from "open" or "limited to existing roads and trails" to "limited to designated roads and trails". These management actions were implemented on approximately 401,000 acres of BLM lands. Of this approximately 73,500 acres is within the Northeastern Mojave Recovery Unit.

Under the Short-Term HCP, a trust fund of over \$3,000,000 was established to assist ongoing management of conserved habitat. An additional \$1,000,000 was added to the trust fund as mitigation for a one-year amendment and extension of the section (10)(a) permit.

There were a total of 1,835 tortoises collected (including the progeny thereof) and brought into the BLM Tortoise Conservation Center during the effective period of the short term HCP including a one year extension ending July 1995. This total included Section 7 collections, Section 10 collections and progeny thereof. The disposition of these tortoise has included: transferred into other ownership, died, euthanized due to being seriously injured or symptomatic to the Upper Respiratory Tract Disease (URTD), and 360 are currently in holding.

In July 1995, the Clark County Short-Term HCP with a one year extension, expired. The subsequent long-term HCP, called the Clark County Desert Conservation Plan, was approved on July 11, 1995 and became effective on August 1, 1995. This plan provides funding for implementation of recovery actions, research and environmental education. The Section 10(a) permit associated with the Clark County Desert Conservation Plan provides for incidental take of desert tortoise on private land in Clark County for a 30 year period. The area covered by the Section 10 (a) permit includes all non-Federal lands in Clark County (412,000 acres) which consists of 170,000 acres of developed land and 242,000 acres of undeveloped land. Take of desert tortoise is authorized on up to 113,900 acres of non-federal lands. Disturbance is expected to occur mostly within the Las Vegas Valley.

The Clark County Desert Conservation Plan requires a \$550 per acre development fee on disturbance of private property throughout Clark County. Fees collected are held in an endowment fund. Clark County administers and invests the endowment fund in accordance with the laws of the State of Nevada. The Clark County Desert Conservation Plan proposes to mitigate the impacts of incidental take of tortoises on nonfederal lands in Clark County through the expenditure of funds to assist in implementation of conservation activities, primarily within DWMA's or tortoise ACECs defined in the Las Vegas RMP. Between \$1.35 and \$1.65 million per year will be available for the first 10 years and a minimum of \$1.35 million per year for the rest of the 30 year period will be allocated and spent for mitigation measures outlined in the Clark County Desert Conservation Plan. Specific conservation measures to be funded include: funding for law enforcement; designation, signing, and closure of roads; restoration or acquisition of habitat; construction and maintenance of tortoise barriers along roads; tortoise inventory; monitoring and multiple species inventory; and protective measures within Clark County.

It is possible that some of the money could be spent outside of Clark County, and may be used to purchase grazing permits within tortoise habitat in Lincoln County. In the event that grazing permits are acquired, the BLM has agreed that Clark County need not maintain or remove any range improvements because the land would be retained as habitat.

While survey and collection of desert tortoise is optional under the Long Term HCP, as of February 1998, there have been 2,333 tortoise collected, including the progeny thereof, and turned in to the Tortoise Conservation Center since July 1995.

Approximately 30,000 acres of BLM land in Piute/Eldorado DWMA are being managed as conserved habitat as defined in the Clark County Short-Term HCP. Management actions are consistent with the Tortoise Recovery Plan, i.e., no livestock grazing, no organized events (except in one part of Eldorado Valley where they are specifically allowed by the HCP) and casual use is limited to designated roads and trails. Part of this land is in the Northeastern Mojave Recovery Unit, the remainder is in the Eastern Recovery Unit. In addition to conserved habitat on public lands, 85,000 acres of private land are being managed under a conservation easement to Clark County and 188,000 acres of Lake Mead NRA is being managed as conserved habitat.

As of February 1998, 365 desert tortoises reside at the Desert Tortoise Conservation Center and an additional 600 reside in the BLM portion of the Conservation Center. Tortoises have been translocated to an area of public lands outside of the Las Vegas Valley. The translocation site is located west of I-15, south of Highway 161 between Goodsprings and Jean, Nevada and south to approximately three miles north of the California border. The purpose of the translocation is to 1) provide a means in which otherwise healthy desert tortoise may have a reasonable chance of long-term survival in the wild; 2) study various translocation techniques; 3) determine if large scale translocations can be successfully implemented where existing tortoise populations occur or once occurred; and 4) to reduce the number of tortoise held at the Conservation Center which is nearing capacity. The project is mostly funded with Clark County HCP funds with some contributions provided by USFWS section 7 off-site mitigation funds. Nine hundred and sixty tortoise have been released there since April of 1997; 360 will be released this spring; 300 in October; and 300 in December (Labarr, April 7, 1998, per. comm.).

There is a potential loss through development of 113,900 acres of privately owned land within desert tortoise habitat authorized under the permit to Clark County. This permit includes incidental take of the desert tortoise over a 30 year period. The permit area includes all of the non-Federal lands within Clark County, approximately 325,000 acres.

The FEIS for Clark County Desert Conservation Plan may impact up to 113,900 acres, less than 4% of the more than 3.5 million acres of desert tortoise habitat in the county. (USFWS, p 82, 1995b) Of that 113,900 acres, 80% is likely to support desert tortoise habitat. (USFWS, p. 83 1995b) It is projected that during the life of the permit (1994-2023) \$44,757,642 will be raised to be used for conservation of the desert tortoise. (USFWS, 1995b)

For a two year period after issuance of the July 1995 permit, payments from the principal of the Clark County Desert Conservation Plan endowment fund were committed to purchase (on a willing-seller/willing-buyer basis) grazing privileges and/or private inholding, provided the cost does not jeopardize the ability of the fund to provide sufficient money to fulfill the other minimization and mitigation requirements of the plan for the term of the permit. In order to qualify, contracts or options to purchase grazing privileges and other real property must have been entered into within two years after the long-term permit is issued (July 1995) and the money must actually be expended within five years after the long-term permit is issued. Grazing privileges which have been canceled will not be purchased. However, in the event the decision canceling any grazing privilege is under review by the Interior Board of Land Appeals or any court, that grazing privilege shall still qualify for purchase.

Until the Las Vegas RMP is approved the non-use provision of the Implementation Agreement for the Clark County Desert Tortoise HCP is in effect. It reads, "Non-use status for conservation and protection purposes shall be approved and grazing shall not be permitted...until such time as a definitive study of livestock/tortoise interrelationships has been completed and has scientifically demonstrated that livestock grazing can be conducted on the acreage affected by the acquired grazing permits under conditions that will improve tortoise habitat and will not impair recovery of the species."

Nye County HCP

A 30-year Permit issued by the Service to Nye County became effective on February 10, 1995. It allows for the incidental take of 20 desert tortoise during construction, operation and rehabilitation of the Pahrump Landfill, which will affect 80 acres of desert tortoise habitat. The HCP submitted with the permit application outlines measures to minimize and monitor the effects of the take. Over the term of the permit, Nye County shall transfer up to a total of \$25,920 into a desert tortoise trust fund as mitigation for the alteration of these 80 acres. These funds will be used to purchase, install, and maintain cautionary tortoise road signs. Surplus funds will be used for public education on the Mojave Desert and its inhabitants, including the desert tortoise.

Desert Tortoise Management Oversight Group

A Management Oversight Group consisting of the BLM State Directors for Nevada, Utah, Arizona and California; the three Regional Directors of the USFWS regions which cover desert tortoise habitat; the four state wildlife agency Directors; representatives from the National Park Service, and Military Departments provides direction for the coordinated management of desert tortoise habitat. In



addition, the group, through their Technical Advisory Committee, prioritizes research activities for the BLM and the BRD to benefit desert tortoise. In November 1990, the MOG established priorities for 16 different tortoise research topics. These research priorities are updated periodically. The MOG also proposes rangewide management policies.

Desert National Wildlife Range

The Desert National Wildlife Refuge (DNWR) was established in 1936 primarily for the preservation of the desert bighorn sheep. The Refuge originally contained 2,250,000 acres. In 1966 it was reduced in size to its current 1,588,000 acres which includes 150,000 acres of low density tortoise habitat. The Nellis Air Force Range utilizes approximately 836,000 acres of the DNWR for air-to-air and air-to-ground testing and training. Historic desert tortoise habitat loss in this area can be attributed to military bombing and gunnery activities. Public use of the Range has historically been severely restricted through control of vehicle access.

The 150,000 acres of desert tortoise habitat in the Desert National Wildlife Range is managed in accordance with the Recovery Plan for the desert tortoise. Critical habitat for the tortoise was not designated within the Desert NWR because land management practices were determined to provide sufficient protection. Public use of the Range is severely restricted and vehicle access is controlled. While the number of tortoises that currently occupy these denuded sites is unknown, bombing continues to kill some tortoise and disturb remaining tortoise habitat within the 100,000 acre target impact area portion of the Desert National Wildlife Range which overlaps with the Nellis Air Force Range. There are 800,000 acres in use by the USAF with a target impact area of 100,000 acres with active bombing on 50,000 acres of low density tortoise habitat.

A "jurisdictional" exchange has been proposed by the USFWS to relieve the Service and the DNWR of incompatible uses as represented by the military use. This is currently under negotiation with the Military.

The Department of Defense

The Department of Defense manages approximately 275,000 acres of tortoise habitat on the combination of the Nellis Air Force Range, the Small Arms Range and the Nellis Air Force Base. The Nellis Air Force Range contains about 260,000 acres of mostly low density tortoise habitat. The 10,240 acres within the Small Arms Range is of low to moderate habitat value for tortoise. Sixty three percent of the historic ordnance impact areas (67,655 acres) are in desert tortoise habitat. Portions of 21 historic target impact zones (1,056 acres) are within desert tortoise habitat.

The habitat supports very low to moderate density tortoise populations. The Nellis Range is restricted to public access. This protects tortoises from collection or harassment by the public. These animals are also isolated from exposure to released pet tortoises which may be infected with URTD (Upper Respiratory Tract Disease). No off-road travel is allowed. There is no livestock grazing or mining. A few wild burros may use tortoise habitat, however, numbers are low. Air Force personnel and contractors using the range must complete a tortoise education program. Because of target closures, only 970 acres of disturbed desert tortoise habitat within the Nellis Air Force Range will continue to be degraded by weapons testing/training. The Biological Opinion with the USFWS was recently modified to eliminate the fencing requirement around active bombing sites.

As a term and condition in their Biological Opinion, tortoise-proof fences are required around specific target impact zones as mitigation. Fences would be required around other target impact zones if surveys indicate they are necessary. Weapons testing will continue.

Nevada Test Site

The Nevada Test Site contains 285,440 acres of which most are low density tortoise habitat. Natural resources within the Test Site are managed under a 5-party Cooperative Agreement (pending) among the DOE, Air Force, NDOW, BLM and the USFWS. Defense related, nuclear testing activities have disturbed an unknown acreage of desert tortoise habitat. Public access and use has always been severely restricted. Portions of the area have remained in primarily a natural condition with no other uses allowed.

DOE/NV manages approximately 285,440 acres of tortoise habitat which occurs on the southern third of the Nevada Test Site (NTS). The tortoise habitat is contiguous with tortoise habitat on public land to the south and the Nellis Air Force Range to the east. It is isolated from the proposed Coyote Springs DWMA by the Nellis Air Force Range and is not identified as a potential DWMA in the Recovery Plan. Tortoise densities on NTS range from very low to low. No critical habitat was designated by the USFWS on the Nevada Test Site. As of spring 1997 the Yucca Mountain Project is beginning an EIS with the BLM as a cooperating agency. The EIS will include consideration of desert tortoise.

The Draft EIS for the Nevada Test Site and Offsite Locations in the State of Nevada was completed in January 1996. This DEIS covers the entire Test Site and includes comprehensive considerations of the desert tortoise. On August 22, 1996 the Service issued a programmatic biological opinion (File No. 1-5-96-F-33) to the Department of Energy/Nevada Operations which covered implementation of proposed actions on the Nevada Test Site. The Yucca Mountain EIS for construction and long-term storage of nuclear waste will evaluate effects on natural resources.

Harrich Investments, LLC (formerly Aerojet)

On March 31, 1988, PL 100-275, the Nevada Land Exchange Authorization Act of 1988 was passed. This legislation authorized the transfer of approximately 29,000 acres of very good tortoise habitat on Public land in Clark and Lincoln counties to Aerojet Corporation. An additional 13,800 acres of tortoise habitat were leased to Aerojet for a term of 99 years. These transferred and leased lands create a doughnut hole within the proposed Coyote Springs DWMA. Recent transfer of the leased lands to Harrich Investments, LLC lands was approved by the BLM on November 15, 1996.

Approximately 13,800 acres of tortoise habitat are leased to Harrich Investments, LLC (formerly Aerojet) under a 99 year lease (6,400 acres in Clark County and 7,370 acres in Lincoln County). Under the terms of the lease, these lands are withdrawn from mineral entry and livestock grazing. The area is closed to OHV use. While Harrich has the authority to construct various facilities on the leased land, they are required to minimize impacts to desert tortoise and to comply with federal, state and local laws and regulations. Minimization measures include fencing of construction sites and roads which traverse high density tortoise habitat, providing a tortoise education program for all workers and relocating tortoises from fenced areas to undisturbed areas. Development of the leased lands is also subject to section 7 consultation. The Lease Agreement allows for construction of roads, utility lines, storage facilities and wells on the leased lands.

Approximately 16,000 acres of these lands are still up for sale. It is anticipated that most of this land will eventually be sold and developed. If the land were to become available, it could be purchased for tortoise conservation. If acquisition of these lands is not possible, this amendment allows for a land exchange that will enhance ACEC reserve design as well as improve critical desert tortoise habitat.

Rural Lands Initiative

This proposal would transfer 16,377 acres of public lands in Lincoln County into private ownership in exchange for conservation easements in Douglas County. Between 6,000 and 7,000 acres of the identified lands in Lincoln County are in desert tortoise habitat.

Bureau of Reclamation

Hoover Dam, built between 1931 and 1935 inundated 157,900 acres under 1,221 feet in elevation within what is now the Northeastern Mojave Recovery Unit. Due to the steep, rugged terrain of what is now Lake Mead it is doubtful that much tortoise habitat was impacted except for along the margins of portions of the lake such as around the Overton Arm.

Lake Mead National Recreation Area

The establishment of this NRA on one hand protected tortoise habitat from development, but on the other hand focused intense recreational use on portions of tortoise habitat. The northern portion of the NRA contains tortoise habitat around the edges of Lake Mead within the Northeastern Mojave Recovery Unit. The area is managed to maintain natural conditions while providing for visitor recreational use. The National Park Service emphasizes public education and preservation of the desert ecosystem.

The National Park Service administers the Lake Mead National Recreation Area. The NPS has completed a draft management plan for the desert tortoise to implement the goals and objectives of the Recovery Plan. This area is managed by the National Park Service to maintain natural conditions while providing for visitor use. Desert tortoise are managed within areas recommended as DWMAs in accordance with the Recovery Plan recommendations.

Valley of Fire State Park

This State Park manages for natural conditions and visitor use within 36,000 acres of desert tortoise habitat and environmental education for the desert ecosystem, including the desert tortoise, is emphasized for the visitors.

Moapa River Indian Reservation

The Reservation contains 72,000 acres of tortoise habitat. There is no known religious or cultural use of tortoise.

Environmental Education

A Public Affairs Plan was developed by the BLM Las Vegas Field Office in October of 1989 as a result of the BLM Rangewide Plan. This was used to guide public education efforts in regard to protection of the desert tortoise. Four "Fact Sheets" have been developed and are being distributed to the public. Clark County in cooperation with BLM, other governmental agencies and interest groups, has developed public education videos for desert tortoise environmental education. Clark County has also developed several desert tortoise environmental education "public service announcements" for radio and TV broadcast which have been aired in the Las Vegas area.

The BLM is currently working on establishing two kiosks in the Piute/Eldorado Tortoise Management Area and developing a pamphlet about the TMA. A school curriculum on desert etiquette has been developed by the Nevada Cooperative Extension Service under contract to Clark County.

Environmental education to assist survival of the desert tortoise is done at the local schools and is also conducted at The Spring Mountain National Recreation Area, Tortoise Conservation Center, Red Rock Canyon National Conservation Area, Lake Mead National Recreation Area, and Valley of Fire State Park.

Environmental education efforts will continue to be important. According to the Recovery Plan (p. 71) it is the lead responsibility of the USFWS to develop and implement environmental education programs to be primarily focused on those groups of people who use the desert most frequently.

Research

Research continues to be conducted at the BLM-managed Tortoise Conservation Center. The Smithsonian is currently conducting desert tortoise nutrition research at the Center with funds provided by the Clark County HCP and Section 7 mitigation funds (5320 account) derived from community sand and gravel pits on public lands.

In the Desert Tortoise Translocation and Habitat Efficiency Study, desert tortoise are being released on land south of Las Vegas. The purpose of the project is to provide researchers and land managers with techniques for improving desert tortoise translocation efforts at other underpopulated sites, and learn more about the habitat requirements of desert tortoise.

There is ongoing research to aid in the recovery of the desert tortoise. The Recovery Plan identified 10 research needs among the recovery tasks recommended for agency implementation. The BRD will continue a Desert Tortoise Research Project to address tortoise-related concerns. The research is being coordinated by the Management Oversight Group.

Implementation of the results of the current research by BRD and the Smithsonian will provide scientific data as guidance for more effective management of the desert tortoise. The ongoing research includes such topics as effects of livestock grazing on tortoise growth rates, effectiveness of fences and culverts in preventing tortoise highway mortality, and effectiveness of raven control in reducing juvenile tortoise predation. There may be Experimental Management Zones (EMZ) established within the DWMAs/ACECs in response to approved research plans. EMZs are allowed by the Recovery Plan for the Desert Tortoise. Monitoring will be done in accordance with the methods developed through the MOG.

Clark County has proposed three experimental habitats for release and study of collected tortoises. These are located--at different elevations--Bird Spring Valley south of Las Vegas, Nevada, a peninsula on Lake Mead, and a site northwest of St. George, Utah where no tortoise exist. (Las Vegas Review Journal, 11/9/95)

The College Of Natural Resources at Utah State University has received funding to study the Mojave Desert ecosystem which would include considerations of desert tortoise. The principals in this "Mojave Desert Ecosystem Initiative" are the Department of Defense, the BLM and USU. This study would provide an ecological data base for future management decisions within the Mojave.

Transportation Corridors

Highways, roads and railroads have been built throughout desert tortoise habitat to interconnect the population centers within the Northeastern Mojave Recovery Unit, with concentrations located around the major population centers. Major roads and highways are identified on Map 2-8.

NDOT manages approximately 1,000 miles of roadway through desert tortoise habitat in Clark, Lincoln, Nye, Esmeralda, and Mineral Counties. About 900 miles of this is within the Northeastern Mojave Recovery Unit. In addition there are many miles of County and BLM roads throughout tortoise habitat.

The Clark County Desert Conservation Plan (DCP) specifies procedures for NDOT to follow during normal and emergency maintenance activities and construction activities in order to protect tortoise. For example, mowing of vegetation will only be allowed from June 16 through February 28. The area of NDOT activity covered by this plan includes approximately 1000 miles of roadway (affecting about 2,900 acres) through desert tortoise habitat in Clark, Nye, Lincoln, Mineral and Esmeralda Counties that are presently maintained by NDOT. Incidental take was approved and will be allowed in connection with the maintenance of roads, highways and material sites. NDOT and Federal Highway Act material sites remain in use until relinquished.

During 1997, part of the highway barriers were installed along I-15 and along State Route 161 in conjunction with a tortoise relocation program. Tortoise proof barriers are also being installed along US Highway 95 in Piute Valley. These barriers will have been completely installed by February 1998. These barriers will be monitored and evaluated for their effectiveness and longevity. Currently, Clark County's Implementation and Monitoring Committee is looking at which roads should have priority for fencing over the next few years.

The Nevada NDOT anticipates 26 road widening projects resulting in 494 acres of disturbance and the need for about three new materials sites per year for the next three to five years and one per year thereafter adjacent to existing roadways in Clark, Lincoln and Nye Counties. A maximum of about 2,400 acres of land may be developed as material sites over the thirty year term of the USFWS Section 10 (a) permit. While this permit includes the majority of desert tortoise habitat in Nevada, similar types of disturbances will occur in other portions of the Northeastern Mojave Recovery Unit in Utah, Arizona and California, but to a lesser degree.

As specified in the Clark County Desert Conservation Plan, NDOT will relinquish and rehabilitate unused and unneeded material sites (about 200 acres) within the proposed tortoise Special Management Areas. An estimated 120 acres of these would be within the Northeastern Mojave Recovery Unit.

Road traffic is expected to increase in the Northeastern Mojave Recovery Unit as a direct result of the anticipated increase in population growth.

Highway barriers and underpasses will continue to be constructed for the benefit of desert tortoise as the ongoing monitoring demonstrates the effectiveness of the current barriers and openings. Clark County through HCP funding intends to spend at least \$500,000 per year to construct tortoise proof barriers along highways and roads where tortoise mortalities are known or expected to occur due to traffic.

Underpasses for tortoises would probably be installed during new road construction projects. Current culverts may be somewhat modified to provide greater access for tortoises.

Residents of Scenic, Arizona have approached Mojave County and the BLM in regard to a potential bridge over the Virgin River near Big Bend that would connect with Highway 91. This would alter travel patterns within that portion of the Northeastern Mojave Recovery Unit.

Collection as Pets

Desert tortoise have been taken from the wild and brought home as pets for many decades. According to the USFWS, throughout its range, over 100,000 individuals of this species existed in captivity prior to its listing in 1990.

Landfills

In the past, landfills had developed near all populated areas throughout the Northeastern Mojave Recovery Unit. As a result of the EPA regulations for landfills, Clark County has closed all but two landfill sites in the County; Apex and Laughlin. A majority of the solid waste in the County will be sent to the Apex site. (USFWS, p. 77, 1995b) Other landfills throughout the Northeastern Mojave Recovery Unit have been closed and regional, more closely regulated landfills established as a result of the EPA regulations. Unregulated landfills served as a food source to maintain populations of ravens and other natural predators of the tortoise.

BLM is in the process of identifying and closing illegal dumps which are located on public lands. Landfills in Searchlight, Mesquite, Indian Springs, Sandy Valley, Logandale, Overton, and Pahrump have been closed. Silver State Disposal has proposed the development of transfer stations throughout Clark County. Pahrump has worked with the USFWS to develop an HCP for a landfill near Pahrump. A landfill has been opened on private land near Mesquite. A 30 year permit issued to Nye County became effective on February 10, 1995. It allows the incidental take of 20 desert tortoise during construction and operation of the Pahrump landfill, which will affect 80 acres of desert tortoise habitat.

Urban Development

"Historically, habitat reduction and fragmentation have not been uniform throughout the desert tortoise's range, but have been concentrated around populated areas, such as; Las Vegas, Laughlin, and Mesquite, Nevada and St. George, Utah." (USFWS, p. 5823, 1994d)

"Urban development in Las Vegas Valley has all but eliminated what may have been one of the largest and densest tortoise populations in Nevada" (USFWS, p. 68, 1995). In addition, the remaining habitat in the Las Vegas Valley has been seriously fragmented.

On August 4, 1989, the date of the emergency listing of the desert tortoise, there were a variety of urban development construction projects underway in the Las Vegas Valley which involved more than 7,000 acres of tortoise habitat. The resolution of the continuance of this urbanization in light of the emergency listing included the construction of the Tortoise Conservation Center and removal of the tortoise on the affected acreage to the Center.

Over 100 miles of flood control channels, pipelines, dikes and levees have been built in tortoise habitat in southern Nevada to help protect the Las Vegas area from floods.

On April 11, 1996 the Service issued a programmatic biological opinion to the Bureau's Las Vegas Field Office for implementation of the land disposal portion of their MFP and Stateline Resource Management Plan within the Las Vegas Valley. Consultation was reinitiated on a 1991 opinion to expand the programmatic boundary from 263,267 acres to 378,956 acres to meet the needs of development in the Las Vegas Valley and to implement Bureau land use plans. The opinion concluded that increasing the acreage of desert tortoise habitat potentially affected within the expanded programmatic area to 121,000 acres, and taking all of the tortoise occurring on those lands was not likely to jeopardize the continued existence of the species.

Clark County is one of the fastest-growing counties in the nation. Clark County contains nearly 65% of the population of Nevada. The Las Vegas Valley is the fastest growing metropolitan area in the United States. Approximately 4,000 new residents move to the area each month.

The BLM Las Vegas Field Office has on file more than 20 proposals for land exchanges which involve property within the Northeastern Mojave Recovery Unit within the Las Vegas Valley. On April 11, 1996 the USFWS issued a programmatic Biological Opinion to the Bureau's Las Vegas Field Office for implementation of the land disposal portion of their MFP and Stateline RMP within the Las Vegas Valley. The opinion concluded that increasing the acreage of desert tortoise habitat potentially impacted within the expanded programmatic area to 121,000 acres was not likely to jeopardize the continued existence of the desert tortoise. The programmatic area also includes a 4,000 acre "exclusionary zone" which is highly urbanized and developed and does not contain suitable desert tortoise habitat. The programmatic area does not include desert tortoise critical habitat or areas proposed as ACECs for desert tortoise.

The Las Vegas metropolitan area ranked second in the nation with an economic growth rate of 10.8 percent. From 1983 to 1993 Clark County's population increased from 535,108 to 919,388. By 2020 the population is expected to grow to 1,450,409. (USFWS, p. 79, 1995b). Over the next ten years the Valley as a whole is expected to gain over 215,000 residents, with about 43% of the increase occurring in the Valley's unincorporated areas. (USFWS, p. 80, 1995b)

This explosive growth is expected to continue, resulting in an increasing demand on public lands in southern Nevada for infrastructure needs, utility and road corridors and recreational opportunities. Other portions of the Northeastern Mojave Recovery Unit including Moapa, Mesquite, Alamo and Ash Springs, SE Utah, NW Arizona and southern California will likely also experience population growth.

According to the USFWS, few human activities are expected over the next several decades within the mostly undisturbed, isolated and rugged terrain of the proposed Gold Butte-Pakoon DWMA and the Coyote Springs DWMA. (USFWS, 1994b) Public lands within the proposed ACECs would not be available for sale, lease or exchange.

There is relatively more private land within the Coyote Springs ACEC, due to the Apex Legislation. Some of this land is expected to be developed.

About 170,000 acres of land in tortoise habitat within the Northeastern Recovery Unit is projected to be developed during the life of the plan. This would include private lands developed for sand and gravel operations such as Bedrock in the Caliente Resource Area and the proposed expansion of the resort area at Ash Springs.

Minerals

Minerals activities have historically been minimal within the Northeastern Mojave Recovery Unit. Locatable and salable minerals have accounted for the majority of minerals surface disturbance within the recovery unit. The Nevada portions of the recovery unit have had the most activity with the resulting surface disturbance. Mineral potentials average between low to high for fluid minerals; low for non-energy leasables; high for locatable minerals; and high for mineral materials.

Development of mineral materials appears to be the most economic during the past and is projected to be so into the future. Most of this development is from the demand created by the expansion of Las Vegas, and Mesquite, Nevada, and St. George, Utah. The total disturbance in the recent past is estimated to be 6,030 acres

within the Northeastern Recovery Unit. This includes mineral material right of ways for the various state Departments of Transportation. With the known mineral deposits in Nevada and the high mineral potential for locatable minerals, development is expected within the life of this plan. Exploration and development has been moderate with an estimated 1,012 acres of disturbance within the Northeastern Mojave Recovery Unit. Exploration and development of leasable minerals has been low and an estimated 22 acres of surface disturbance has occurred in the Northeastern Mojave Recovery Unit.

Within the Caliente Resource Area there has been an estimated 200 acres disturbed by mineral development which is in the process of being reclaimed. There is very little ongoing mineral exploration or development within the Northeastern Mojave Recovery Unit. Since 1992, changes in the mining regulations have resulted in approximately a 50% reduction in the number of notices filed annually within the Las Vegas Field Office (formally the Stateline RA). This is representative of the decline in Notices throughout the Northeastern Mojave Recovery Unit.

Extensive reclamation is being completed on minerals activities within the Northeastern Mojave Recovery Unit. All past surface disturbances for leasable minerals and an estimated 512 acres of locatable minerals activity has been reclaimed. Mineral material pits have not been reclaimed and to meet the increasing demand a 200 acre community pit has been established in the Northeastern Mojave Recovery Unit. Total surface disturbance for mineral materials is 6,230 acres and 500 acres from locatable minerals.

Future development scenarios have been developed based on the potential future market demands and commodity prices. These scenarios are projections for analysis purposes only. Leasable minerals have been determined to have continued exploration in Nevada and potential development of a small producing field. This type of activity would result in development of roads, drill pads, geophysical exploration and field development. There would be an estimated 325 acres of disturbance for this type of activities.

It is expected that the exploration for locatable minerals will continue at its present rate. Most of the activity will occur in portions of the Northeastern Mojave Recovery Unit in Nevada but activity is expected in Utah and Arizona portions of the Northeastern Mojave Recovery Unit. This activity will mainly occur under Notices outlined under 43 CFR 3809 regulations. These operations are usually under five acres and consist of exploration drilling and trenching. It is expected some minerals development would occur under plans of operation which would include larger exploration/development plans and mining operations. It is expected that any mining operation would be small in size and range between 50 to 150 acres. There would be an estimated 2,130 acres of additional disturbance from locatable mineral activity.

Demand for mineral materials would remain high. There would be the need for additional community pits and the expansion of existing material sources. A community pit would be opened once every five years and would be restricted to 20 acres. There would be an expansion of the current pits. The NDOT anticipates the need for about three new material sites per year for the next three to five years and one per year thereafter adjacent to existing roadways in Clark, Lincoln, and Nye Counties. (Clark County, p. 53, 1994). A maximum of about 2,400 acres of land may be developed as material sites over the thirty year term of the USFWS Section 10 (a) permit. (Clark County, p. 53, 1994). While this permit includes the majority of desert tortoise habitat in Nevada, similar types of disturbances will occur in other portions of the Northeastern Mojave Recovery Unit in Utah, Arizona, and California, but to a lesser degree since there is a lower rate of population growth in these rural areas. It is, therefore, estimated that there would be an additional 3,500 acres of surface disturbance from mineral materials throughout the Northeastern Mojave Recovery Unit.

There are existing mining claims throughout the projected DWMA/ACECs in the Northeastern Mojave Recovery Unit. Some surface disturbance from exploration and mine development is expected to occur. Any

Mining Plan of Operation, which is required within an ACEC, would be subject to Section 7 Consultation from the USFWS.

There are three gypsum mineral patents in or near the Gold Butte ACEC. However, due to the distance from the market, it is unlikely that they would be economical to mine in the near future. Should the patents be developed in the future the only access into the area is through the proposed Gold Butte ACEC.

OHV Use

OHV use in the Northeastern Mojave Recovery Unit has increased and proliferated since the 1960s. (USFWS, p. D-16, 1994a) "As of 1980, OHV activities affected approximately 25% of all desert tortoise habitat in California, as well as substantial portions in southern Nevada." (USFWS, p. 5823, 1994d)

After the listing of the desert tortoise, the Las Vegas Field Office set a policy prohibiting high-speed OHV events in Category 1 and 2 tortoise habitat. Traditional OHV events were relocated to courses outside of Category 1 and 2 habitat, with minor exceptions where no other alternative was available. After approval of the Clark County Short-Term HCP, the BLM agreed to prohibit high-speed OHV events in the Piute/Eldorado Tortoise Management Area except for that portion of Eldorado Valley and Nelson Hills where racing was currently ongoing. The BLM, Clark County and USFWS agreed that up to nine OHV events would be allowed in this area annually. Based upon the DWMA's proposed in the Recovery Plan and the designation of critical habitat, the areas closed to OHV events were redefined to be the proposed tortoise ACECs. Some areas of category 2 habitat that were previously closed, were reopened to OHV events.

Las Vegas Field Office policy established shortly after the desert tortoise was listed as a threatened species in 1989 forbid competitive OHV events in Category I and II areas with few exceptions. The Programmatic Section 7 on OHV events in the Las Vegas District changed that to be no high-speed OHV events to be allowed within proposed ACECs/critical habitat except in Eldorado Valley where 9 events are allowed annually. Most of the races held within the Las Vegas District are within the Northeastern Mojave Recovery Unit.

"In recent years as many as 50 competitive OHV events have been held in Clark County annually with over 5,000 participants and over 100,000 spectators." (USFWS, p. 76, 1995b)

As of April 1, 1994, and for the next three years, the BLM determined that in the Ivanpah Valley OHV Area, seven (7) existing OHV events would be allotted a "grandfathered use", and would allow three other first-come, first-served use, for a total of ten (10) events. The BLM determined that in the Eldorado Valley TMA, eight (8) existing OHV events would be allotted a "grandfathered use", and would allow one (1) other first-come, first-served use, for a total of nine (9) events annually. In addition permits are issued for events in other parts of the District. About 25 to 30 OHV events are permitted annually.

A programmatic biological opinion (File No. 1-5-95-F-237) for speedbased OHV events in the Las Vegas Field Office (Stateline and Caliente Field Stations) and Battle Mountain Field Office (Tonopah Field Station) was issued to the Bureau on August 30, 1995, which encompassed or replaced previous biological opinions issued to the Bureau for OHV events.

Off-Highway Vehicle events are a popular activity on public land in southern Nevada. OHV racing is expected to continue to increase in the future. Non-competitive events such as dual sport rides and poker runs will probably increase due to overall increased population within the Northeastern Mojave Recovery Unit. Also, mountain bike events and motorcycle trials are becoming very popular in the Las Vegas area.

The Las Vegas District RMP proposes to limit OHV speed events to approximately one-third of the Las Vegas District. This will preserve most areas where racing is currently allowed while prohibiting racing in tortoise ACECs. Most OHV activity would be restricted to existing race courses which will limit new disturbance. Non-speed OHV events may be allowed on designated roads within tortoise ACECs/DWMAs. There would be no competitive OHV events allowed off of designated roads in DWMAs/ACECs throughout the Northeastern Mojave Recovery Unit. Access would be limited to designated roads and trails. The Biological Opinion for OHV races allows for transfer sections of one motorcycle rally annually in the Beaver Dam Slope ACEC.

"Recreational and OHV use is expected to increase, especially with the projected human population growth near Littlefield and Mesquite." (USFWS, p. 49, 1994b)

"The ruggedness of the terrain and relatively few roads, especially in the Gold Butte and Pakoon Basin areas, tend to limit human impacts to desert tortoise habitat. Recently, however, there have been noticeable increases in OHV activity, especially both north and south of the Virgin River in Arizona and Nevada." (USFWS, p. 56, 1994b)

The BLM in 1989 designated the Bitter Springs and Gold Butte Back Country Byways, which will likely increase vehicle use in tortoise habitat.

Fire Management

During the period 1980 to 1990 a total of 5,126 fires burned 554,569 acres in the Mojave Desert. (USFWS, p. D-24, 1994a) Over the years, fires have been more frequent and more intense within the Northeastern Mojave Recovery Unit because of the introduced annuals which dry out and serve as a flash fuel, and the presence of increasingly more people who can accidentally start fires. Grass fires have increased in the Mojave Desert since the 1970s. (USFWS, 1991) BLM has reported that the Mojave Desert did not have enough vegetation to keep a fire burning more than a few yards. However, the introduction of the prolific non-native annuals provides a flash fuel source that easily carries fires, (USFWS Bio Op, p. 9, 1991). Many native desert shrubs did not evolve with fire and have no particular adaption to survive any but very low intensity fires. Intense fires and repeated burning lead to the replacement of native species by non-native species. (USFWS, Bio Op, p. 13, 1991)

Full suppression of wildfires is done in tortoise habitats with restrictions on surface disturbing activities and with optional educational briefings for the fire crews.

Fires are expected to increase in numbers with the increase in human population within the Northeastern Mojave Recovery Unit. Also, the limitations and reductions in grazing could result in a buildup of fuels which could contribute to larger and more intense fires. Fires would be suppressed within DWMAs/ACECs with as little surface disturbance as possible.

Domestic Livestock Grazing

Grazing by cattle and sheep has occurred in the Northeastern Mojave Recovery Unit since the mid 1800s, with an increase in intensity near the turn of the century to the mid-1930s. (USFWS, p. 5824, 1994d) This has caused changes within portions of the Northeastern Mojave Recovery Unit including change in vegetation composition to include more exotic annuals, an increase in brush species, a reduction in perennial grasses, and increased soil compaction and erosion. "There is little doubt that livestock grazing has changed the vegetative composition in the Mojave Desert during the past 140 years..." (Oldemeyer, p. 97, 1994). Some trampling of tortoise, tortoise burrows, and/or dens has also occurred.

As recently as 1988, about 30,000 AUMs of use occurred within the Las Vegas Field Office. The AUMs of use decreased to 7,730 by 1994, for a variety of reasons.

In February of 1994, critical habitat for the Mojave population of desert tortoise was designated by the USFWS. Due to the listing of the desert tortoise, BLM initiated Section 7 consultation on the Bureau's livestock grazing program in desert tortoise habitat. Section 7 requires Federal agencies to: 1) Consult with the Service on discretionary actions that may affect listed species, and 2) assist in recovery of listed species. Federal agencies then review their activities and when consultation is necessary, prepare a biological assessment or evaluation which evaluates the effects of the agency proposed action on the listed species and designated critical habitat. This is then submitted to the Service, which 1) determines whether the proposed action will jeopardize the listed species or adversely modify designated critical habitat, and 2) prepares and issues a biological opinion. Full Force and Effect grazing decisions (69) were issued from January 1992 to March 1993 to implement the Biological Opinion pursuant to Section 7 of the Endangered Species Act. Approximately 70 additional full force and effect decisions have been issued since the first set of 69. These decisions prohibited livestock grazing from March 1 to June 14 in all Category I, II and III Intensive desert tortoise habitat. In category III non-intensive desert tortoise habitat grazing is restricted by percent utilization and not by season of use.

The BLM initiated Section 7 consultation on the interim livestock grazing program with the USFWS in 1991. The "terms and conditions" of the Biological Opinion were included in grazing permits issued for allotments in the Las Vegas Field Office and the Caliente Field Station in desert tortoise habitat. In category I, II and "intensive" III habitat areas livestock grazing in Nevada was restricted through full force and effect decisions to the period of June 14 to February 28 and utilization restrictions were established. The BLM decision to implement this seasonal restriction was initially stayed by an Administrative Law Judge (ALJ) and upheld by IBLA. However, on November 11, 1995 a decision by ALJ Child upheld the BLM decisions on 49 grazing/tortoise appeals for decisions issued 1992 and 1994. The BLM and appellants have appealed his decision to IBLA.

Several programmatic and other biological opinions have resulted in limitations of activities within desert tortoise habitat in California. Biological opinions have resulted in the limitation of sheep grazing to category 3 habitats on public land within the North Eastern Mojave Recovery Unit in California. (USFWS, p. 5829, 1994d)

Under the Clark County HCP, the BLM agreed to manage public lands in which Clark County acquired the grazing privileges on a willing seller basis as part of a "Tortoise Management Area" (TMA) for the conservation of desert tortoises. From 1991 to 1994 Clark County, through an agreement with the Nature Conservancy, acquired three grazing allotments (Christmas Tree Pass, McCullough Mountain and Jean Lake) of which the first three listed became the foundation for the establishment of the TMA in the Piute/Eldorado Valley. Iretaba Peak and Crescent Peak Allotments were subsequently purchased by the Nature Conservancy to be managed as a TMA in conjunction with the allotments acquired. As a signatory to the Implementation Agreement for implementing the Short Term HCP, the BLM agreed to: 1) allow nonuse of the allotments for conservation reasons; 2) implement a road closure by designating certain roads and trails as open and closing others; 3) not approve competitive, commercial, or organized events within the TMA (except for parts of Eldorado Valley); 4) not allow additional landfills to be established within the TMA; 5) not take any action which would increase the recreational activities within the TMA; and 6) otherwise manage the TMA on public lands for the conservation of desert tortoises. These conservation actions were to be incorporated into the Las Vegas RMP once approved.

Approximately 540,000 acres of desert tortoise habitat have been conserved by federal land managers as a direct result of the Clark County's habitat conservation efforts. Grazing privileges on five allotments totaling 753,500 acres of BLM managed land have been purchased and put into non-use. Some of these allotments included

NPS lands. Those portions of the allotments in Lake Mead NRA, approximately 435,900 acres were closed to grazing. Approximately 594,900 acres in the Northeastern Mojave Recovery Unit (435,900 BLM and 159,000 NPS) has either been closed to grazing or is managed under voluntary non-use. An estimated 419,150 acres of this is tortoise habitat. According to Jim Moore, Director of Public Lands for the Nature Conservancy, there has been drift of trespass cattle onto TNC Allotments, negating some of the non-use intentions.

The two year start-up period has expired. Only allotments with transactions in progress now qualify for purchase by Clark County. Additional livestock grazing permits within the Northeastern Mojave Recovery Unit may be purchased in the future for the benefit of desert tortoise through other funding sources.

Negotiations involving the permittees on the Sand Hollow and Beacon allotments have been ongoing regarding the retirement of grazing privileges which include lands in the Beaver Dam Slope (Nevada) tortoise critical habitat unit. Once this Plan Amendment is completed, both the Sand Hollow and the Beacon allotments would be closed to grazing. Negotiations are also underway with the Moapa Piute concerning retirement of the grazing privileges on the Rox Tule allotment.

Predation

A variety of animals prey on the desert tortoise or their eggs including foxes, coyotes, raptors, badgers and ravens. Ravens are federally protected through the Migratory Bird Treaty Act. They continue to grow in population and have an important impact on juvenile tortoise (see Chapter 3). Even at the Desert Tortoise Conservation Center in Las Vegas the juvenile desert tortoise must be kept in raven-proof cages, or they may be eaten.

Populations of ravens have increased in the Northeastern Mojave Recovery Unit because of a variety of factors: increased numbers of landfills and feedlots which provide a source of food, range developments have provided a source of water, construction of electrical transmission lines provide an unnaturally high number of nesting and roosting sites, increased miles of roads and highways which result in increased roadkills which ravens use as a food source and protection of the species under the Migratory Bird Treaty Act.

In 1994 a raven control program was initiated by the BLM in California in cooperation with the National Biological Service and the Wildlife Service. The need for such a program was based on such evidence as 250 juvenile tortoise shells being found beneath single raven nests. Because of public concern with killing of the ravens the program was short-lived and the effectiveness of the program could not be evaluated.

"...the Fish and Wildlife Service's Breeding Bird Survey Program provided data to show a 15-fold increase in raven populations in the Mojave Desert..." (USFWS, p. 6, 1994a) Raven populations will likely continue to increase within the Northeastern Mojave Recovery Unit because of a combination of factors including their recent population trends and their status as a Federally protected species. Populations of other predators such as kit fox and coyotes have not shown such a dramatic increase in populations.



Utilities

A wide variety of utilities including transmission lines, telephone lines, fiberoptic lines, and pipelines have been installed throughout the Northeastern Mojave Recovery Unit,

concentrated around population centers. This type of development has also resulted in surface disturbance in previously undisturbed, backcountry areas. The maintenance roads created to serve these linear facilities have provided access routes for the public into the desert backcountry.

Hoover Dam, constructed in the 1930s and 1940s is located Northeast of the Piute/Eldorado ACEC. A portion of the power generated at Hoover Dam is distributed locally by Nevada Power Company through its transmission network. However, the bulk of the power generated is transmitted to California through Southern Nevada Edison and Los Angeles Water and Power lines. In addition, the Navaho-McCullough transmission line transmits power from Page, Arizona to southern California.

Several large interstate transmission lines cross the Mormon Mesa proposed ACEC. In addition, the Kern River Natural Gas Pipeline ROW crosses the proposed ACEC and extends through the Beaver Dam Slope ACEC.

There is an existing Nevada-McCullough powerline across the Utah, Beaver Dam Slope ACEC. A mile wide corridor has been legislatively designated by the Nevada-Florida Exchange Authorization Act of 1988, which parallels US 93 on the east side of the highway. A corridor exists on the Moapa Indian Reservation, which extends 1500 feet westerly from the Reid Gardner-Pecos transmission line and 1500 feet easterly of the ROW for the McCullough transmission line. The Intermountain Power Project transmission line traverses the Recovery Unit. These powerlines provide roosting and nesting sites for ravens and the associated maintenance roads provide public access into the backcountry. Utility transmission line corridors and access roads increase the visibility of tortoises to predators, particularly hatchlings and juveniles.

The USFWS and the BLM are currently developing a programmatic approach to long-term pipeline maintenance. (USFWS, p. 5829, 1994d) A second yet unconstructed powerline will parallel the existing Navaho-McCullough ROW across the Beaver Dam Slope. About 5,000 acres of lands in DWMA's within the Las Vegas District could be disturbed due to anticipated utility corridors. Approximately 1,800 acres are in the Rainbow Gardens corridor which cannot be activated unless released from wilderness consideration.

The final EIS for the Southwest Intertie Power Project (SWIP) has been completed and a Record of Decision issued. This project is anticipated to begin construction during the timeframe of this analysis and is projected to disturb tortoise habitat along 52 miles of the line.

Approximately 30,000 acres within the proposed ACECs in the Las Vegas District would be designated as utility corridors. Approximately 13,000 acres of this are within the Northeastern Mojave Recovery Unit. There would be designated corridors through all of the proposed ACECs except for Gold Butte. In addition, about 12,400 acres of the Boulder City Conservation Easement is within reserved corridors. Approximately 6% of the proposed ACEC acreage within the Las Vegas District would be within designated utility corridors.

If the Sunrise Mountain WSA is released from wilderness consideration, it would open the Rainbow Gardens Corridor for use. This would increase the likelihood of transmission lines from northern Nevada going through the Boulder City Conservation Easement or the Piute/Eldorado ACEC.

The Intermountain Power Project could have an additional powerline added to their corridor during the life of this plan. This would disturb tortoise habitat within the Northeastern Mojave Recovery Unit.

Human Predation

Desert tortoise served as a staple food for thousands of years for the aboriginal inhabitants of what is now the Northeastern Mojave Recovery Unit, as evidenced through data recovered through archeological sites such as tortoise roasting pits, and ethnographic reports of early explorers.

"Human 'predation' is a major factor in the decline of the desert tortoise" (USFWS, p.6, 1994a) Mortality of desert tortoise due to gunshot is common in many parts of the Mojave Region. "At the BLMs Western Mojave Desert Study Plots, 14.6% to 28.9% of all desert tortoise carcasses bore evidence of gunshots..." (USFWS, p. D-6, 1994a) Approximately 10% of the tortoise shell remains from a study plot near Littlefield, Arizona had gunshot wounds. (USFWS, p. 5823, 1994d) "The threat of collections should not be underestimated and will continue to remain high for three reasons. First, most new arrivals to the Southwest are unaware that desert tortoises are protected. Second, the presence of law enforcement officers in open desert lands is inadequate. And third, commercial poaching of rare, threatened, and endangered species is well documented, and in some cases, a lucrative business." (USFWS, p. D-5, 1994a) Tortoise are a traditional food in some developing countries and, "...many former residents of these areas are bringing their traditional practices with them as they migrate to...Las Vegas and elsewhere in the west." (USFWS, p. D-3, 1994a)

Wilderness Study Areas

There is a total of 1,507,821 acres of BLM WSAs within Nevada within the Northeastern Mojave Recovery Unit. A total of 406,266 acres of these have been recommended to Congress as "suitable" by the BLM for wilderness designation. A portion of these areas contain tortoise habitat, below 4,000 feet in elevation. These lands are managed under "interim management". The primary objective of the management of these lands is to manage them in such a manner as to not to impair their suitability for designation as wilderness. (FLPMA, section 603) Wilderness study area status would continue to provide interim protection from surface disturbance within some of the tortoise habitat in the Northeastern Mojave Recovery Unit. Portions of the existing WSAs are projected to be designated as Wilderness by Congress during the life of this plan. Portions of tortoise habitat released from wilderness consideration would still be subject to Section 7 Consultation with the USFWS.

Upper Respiratory Tract Disease (URTD)

URTD is a respiratory disease which is easily transmitted and is potentially fatal to the desert tortoise. "URTD appears to be spreading and may have been introduced to wild populations through illegal releases of diseased captive desert tortoises. Reduced nutritional conditions for desert tortoise, as a result of alterations in native vegetation communities and the native forage species availability caused by years of livestock grazing, has increased desert tortoise susceptibility to this and other diseases. Wild desert tortoises with signs of URTD are commonly found near cities and towns with concentrations of captive tortoises." (USFWS p. 5824, 1994d) URTD has been documented in Nevada tortoise populations. Since 1990, signs of URTD have been documented on five of the permanent study plots in Nevada (Coyote Springs, Christmas Tree Pass, Piute Valley, Mormon Mesa and Gold Butte).

WHAT RESOURCES WOULD BE IMPACTED CUMULATIVELY

According to the BLM "Guidelines For Assessing and Documenting Cumulative Impacts" handbook, the amount of analysis that is necessary can be greatly reduced by limiting cumulative analysis only to those issues and resource values identified during scoping that are of major importance. (Bureau of Land Management, 1994f) The issues and resource values of major importance or public concern which will be analyzed for cumulative impacts are impacts to the desert tortoise, OHV events, and livestock grazing.

IMPACT ANALYSIS

Desert Tortoise

Introduction

This impact discussion is common to all action alternatives. All habitat disturbing actions and actions funded, authorized or carried out by Federal agencies which may affect the desert tortoise must undergo a section 7 consultation with the USFWS. The subsequent "terms and conditions" of the biological opinions would be incorporated in the decision document and the permit or grant issued. Federal actions within designated critical habitat would be more likely to result in a jeopardy opinion since this type of designation is evaluated for "adverse modification of habitat" as well as "take".

This would minimize the effects of activities on the desert tortoise throughout the Northeastern Mojave Recovery Unit.

Management Direction

There are 856,000 acres of designated critical habitat for the desert tortoise within the Northeastern Mojave Recovery Unit. These are managed by a variety of agencies. In the attempt to recover the desert tortoise, the goals and objectives of the USFWS Recovery Plan would be implemented through a combination of management directions including the Arizona Strip RMP Amendment; Tonopah RMP; Las Vegas RMP; Caliente MFP Amendment; Dixie, Utah RMP; Lake Mead National Recreation Area General Management Plan; and the Clark, Washington and Lincoln Counties Habitat Conservation Plans. Table 4-10 "Proposed Management Areas Within the Northeastern Mojave Recovery Unit", shows the proposed acreage within each DWMA or ACEC by jurisdictional unit. This table was used on June 11, 1976, by the BLM in "Proposed Management of Desert Tortoise Habitat in the Northeastern Mojave Recovery Unit". It was used for informal consultation on implementation of the Recovery Plan in the Northeastern Mojave Recovery Unit.

There are approximately 1,780 square miles of desert tortoise habitat within the Northeastern Mojave Recovery Unit proposed for tortoise management by the BLM. An additional 280 square miles have been proposed for ACEC designation for the management of tortoise, by the BLM. These ACECs would be managed for recovery of the desert tortoise. Additional acreage would be designated in the Ivanpah Valley in California by the NPS, but further details are lacking. This table does not include the acreage within the Desert National Wildlife Refuge nor the portion of Lake Mead National Recreation Area that is within the Northeastern Mojave Recovery Unit. The USFWS and the NPS have committed to manage tortoise habitat on these administrative units in accordance with Recovery Plan recommendations. For a comprehensive overview of the implementation of management prescriptions for DWMA/ACECs on BLM administered lands in the Northeastern Mojave Recovery Unit, see Table 4-11 "Proposed Management Prescriptions for Desert Tortoise Management Areas in the Northeastern Mojave Recovery Unit". This is the table that was used in June of 1997 for informal consultation between the BLM and the USFWS on a Recovery Unit Basis. The table is different in some respects from the proposed action for the Caliente land use planning effort since application of the recommendations in the Recovery Plan have been modified through discussion with USFWS to provide for multiple uses while recovering the tortoise. The combination of protective designations and management prescriptions would implement the goals and objectives of the Recovery Plan and ensure management attention for the desert tortoise.

The combination of DWMA/ACECs which are proposed can be seen on Map 4-1. The boundary of the combination of areas does not follow the preferred reserve design as recommended in the Recovery Plan, particularly in regard to having a low edge to area ratio, and being unfragmented. It must be understood,

Table 4-10. Proposed Management Area Within the Northeastern Mojave Recovery Unit.

MANAGEMENT AREA	UNIT	AREA (SQ. MI.) ¹	AREA (ACRES) ²
COYOTE SPRING ACEC/DWMA (NEVADA BLM)	STATELINE RA	118	75,500
KANE SPRINGS ACEC/DWMA (NEVADA BLM)	CALIENTE RA	103	65,900
MORMON MESA ACEC/DWMA (NEVADA BLM)	STATELINE RA CALIENTE RA	237 172	151,400 109,700
PAKOON - GOLD BUTTE ACEC/DWMA (AZ/NV BLM, NPS)	STATELINE RA SHIVWITS RA LMNRA	293 128 81	187,400 81,900 51,800
BEAVER DAM SLOPE ACEC (AZ/NV/UT BLM)	CALIENTE RA SHIVWITS RA DIXIE RA	69 76 64	44,000 48,400 41,100
VIRGIN SLOPE ACEC (ARIZONA BLM)	SHIVWITS RA	72	45,900
DESERT WILDLIFE REFUGE (NV FWS DWMA)		241	154,000
PIUTE/ELDORADO ACEC/DWMA (BLM, NPS DWMA)	STATELINE RA LMNRA	327 83	209,800 53,400
IVANPAH VALLEY (NPS MOJAVE NP, CA BLM)	No data available on future designations. Total of approximately 450 sq. miles within NE Mojave RU in California.		No data available on future designations. Total area within NE Mojave RU in California is equal to approximately 300,000 ac.
TOTAL ACEC/DWMA		1,783 ³	1,141,000 ³
TOTAL ACEC		280	179,400

1 - Area in sq. miles rounded to nearest mile.

2 - Area in acres rounded to nearest 100 acres.

3 - Area in California not included in total acreage.

Table 4-11. Proposed Management Prescriptions for Desert Tortoise Management Area in the Northeastern Mojave Recovery Unit (as of June 1997, for consultation purposes).

DESERT TORTOISE RECOVERY PLAN IMPLEMENTATION - NORTHEASTERN MOJAVE RECOVERY UNIT DESERT WILDLIFE MANAGEMENT AREA/AREA OF CRITICAL ENVIRONMENTAL CONCERN PRESCRIPTION PROPOSALS				
RECOVERY PLAN RECOMMENDATION	SHIVWITS RESOURCE AREA, ARIZONA BLM	DIXIE RESOURCE AREA, UTAH BLM	CALIENTE RESOURCE AREA, NEVADA BLM	STATELINE RESOURCE AREA, NEVADA BLM
PROHIBITED: All vehicle activity off of designated roads, all competitive and organized events on designated roads.	Limit vehicle activity to designated roads - no competitive or commercial organized events. Allow limited non-speed and other permitted events on existing, designated roads. Maintenance of designated roads.		Limit vehicle activity to designated roads - no competitive speed events within ACEC/DWMAs. Allow limited non-speed and other permitted events on existing, designated roads. Consider non-OHV and commercial uses only on a case-by-case basis and evaluate any proposals against recovery objectives.	
PROHIBITED: Habitat destructive military maneuvers, clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation.				
PROHIBITED: Domestic livestock grazing.	Closed to sheep use. Pakoon ACEC/DWMA: closed to grazing. ACECs: non-active season grazing from Oct. 15 to March 15.	Beaver Dam Slope ACEC: allow non-active season grazing from Oct. 15 to March 15.	Closed to sheep use. No domestic livestock grazing authorized inside ACEC/DWMAs.	
Each BLM office that plans to continue to authorize livestock grazing on a seasonal basis would authorize non-use if requested by a permittee (for example, if an allotment were to be purchased by a conservative group).				
PROHIBITED: Grazing by wild burros and horses.	Set Tassi herd level to 0. Remove all burros from Pakoon ACEC/DWMA.	N/A The Beaver Dam Slope has no burros or wild horses.	Set herd level at 0 within ACEC/DWMAs. Remove horses and burros in ACEC/DWMAs but outside of HMA. Maintain herds outside of ACEC/DWMAs.	
PROHIBITED: Vegetation harvest, except by permit.	No commercial vegetation harvest, except on salvage basis after consultation.	No vegetative material sales.	Allow vegetative harvest on salvage basis only after consultation.	
PROHIBITED: Collection of biological specimens, except by permit.				
PROHIBITED: Dumping and littering.				
PROHIBITED: Deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects.				
COMPATIBLE: Limited speed travel on designated, signed roads.	Allow organized, limited non-speed events on designated roads within ACEC/DWMAs and ACECs. Casual use limited to existing designated roads and trails. ACEC/DWMA and ACECs closed to speed competitive OHV events.			

Table 4-11. Proposed Management Prescriptions for Desert Tortoise Management Area in the Northeastern Mojave Recovery Unit. (as of June 1997, for consultation purposes) continued.

DESERT TORTOISE RECOVERY PLAN IMPLEMENTATION - NORTHEASTERN MOJAVE RECOVERY UNIT DESERT WILDLIFE MANAGEMENT AREA/AREA OF CRITICAL ENVIRONMENTAL CONCERN PRESCRIPTION PROPOSALS				
RECOVERY PLAN RECOMMENDATION	SHIVWITS RESOURCE AREA, ARIZONA BLM	DIXIE RESOURCE AREA, UTAH BLM	CALIENTE RESOURCE AREA, NEVADA BLM	STATELINE RESOURCE AREA, NEVADA BLM
COMPATIBLE: Non-consumptive recreation (e.g., hiking, birdwatching, casual horseback riding, and photography).	Non-consumptive recreation allowed subject to OHV and commercial restrictions. Evaluate proposals against recovery objectives.			
COMPATIBLE: Parking and camping in designated areas.	Parking within 25 feet of designated roads, all areas open to camping. Camping limit 14 days.	Camping limit 14 days. Restrict camping within ¼ mile of catchments, guzzlers, designated waters.	Establish sites for parking and camping as appropriate and necessary. Camping limits of 14 days.	
COMPATIBLE: Fire suppression that minimizes surface disturbance.	Same as Recovery Plan. Emphasize aerial, hand attack. Minimize surface disturbances. Desert tortoise resource advisor on site whenever possible, firefighter education program. Locate camps and staging areas in previously disturbed areas wherever practical.			
COMPATIBLE: Permitted or otherwise controlled maintenance of existing utilities.	Non-emergency maintenance limited to inactive season.	No restrictions other than those in ROW grant specific for each utility.		
COMPATIBLE: Surface disturbances that enhance the quality of habitat for wildlife, enhance watershed protection, or improve non-motorized recreation opportunities.	Permitted activities include surface disturbance that enhance quality of other uses such as wildlife habitat, watershed protection, etc., including population enhancement of other wildlife species, except tortoise predators.	Surface disturbance allowed where no impact to listed or candidate species would occur.	Allow construction of upland game guzzlers and other waters for wildlife as long as it doesn't conflict with desert tortoises.	Authorize no land uses that would result in surface disturbance within ACEC/DWMAs.
	species, except tortoise predators.			

Table 4-11. Proposed Management Prescriptions for Desert Tortoise Management Area in the Northeastern Mojave Recovery Unit (as of June 1997, for consultation purposes) continued.

DESERT TORTOISE RECOVERY PLAN IMPLEMENTATION - NORTHEASTERN MOJAVE RECOVERY UNIT DESERT WILDLIFE MANAGEMENT AREA/AREA OF CRITICAL ENVIRONMENTAL CONCERN PRESCRIPTION PROPOSALS				
RECOVERY PLAN RECOMMENDATION	SHIVWITS RESOURCE AREA, ARIZONA BLM	DIXIE RESOURCE AREA, UTAH BLM	CALIENTE RESOURCE AREA, NEVADA BLM	STATELINE RESOURCE AREA, NEVADA BLM
Realty Actions/Rights-of-Ways (Not addressed in DTRF)	Retain all habitat within ACEC/DWMA and ACECs. ACEC/DWMA and ACECs are avoidance areas; ROWs not allowed in ACECs unless no reasonable alternative exists. Require compensation for unmitigated Impacts.	Retain all habitat within ACEC. Beaver Dam Slope is ROW avoidance area, except within fenced boundary of Highway 91.	ACEC/DWMAs consider ROW avoidance areas; all applications evaluated on a case-by-case in the context of the recovery. New communication sites would be limited to existing sites whenever feasible. The ACEC/DWMA and ACEC would be ROW exclusion areas for new material site ROWS under Fed. Aid Highway Act.	
COMPATIBLE: Mining on case-by-case basis, provided that cumulative impacts do not significantly impact desert tortoise habitats or populations, that any potential effects on tortoise populations are carefully mitigated during the operation, and that the land is restored to its predisturbance condition.	<u>Locatable</u> : Plan of Operation required. Same as Recovery Plan. Bonding as appropriate to assure restoration. <u>Leasable</u> : Seasonal restrictions; no surface occupancy authorized until after completion of consultation. <u>Saleable</u> : Closed to sales except hand picking of rocks within 100' of designated open roadways.	<u>Locatable</u> : Plan of Operation required. <u>Leasable</u> : Category 2 special stipulations. <u>Saleable Minerals</u> : Closed.	<u>Locatable</u> : Plan of Operation required. <u>Leasable</u> : Open to development. Exploration limited to Oct. 15 to March 15, and limited to designated roads and trails. <u>Saleable Minerals</u> : Closed, except for existing designated material pits, community pits, and common use areas.	<u>Locatable</u> : Plan of Operation required. Same as Recovery Plan. <u>Leasable</u> : No surface occupancy. <u>Saleable</u> : Closed to sales except allow free-use material sales ROW to local government agencies within one mile of highways or county roads.
COMPATIBLE: Population enhancement of native wildlife species.	Same as Recovery Plan. Population enhancement of native wildlife species.	Enhancement of other species allowed when consistent with desert tortoise objectives.	Allow enhancement of native wildlife species if it is consistent with desert tortoise recovery.	Population enhancement of native wildlife species.

however, that the Desert Tortoise Recovery Team frankly admits that it would not be possible for two out of the five proposed DWMAs in the Northeastern Mojave Recovery Unit to meet the preferred reserve design. In regard to the Beaver Dam Slope DWMA the Recovery Team states, "A more compact, circular shape would be preferred, but is not possible." (USFWS, p. 47, 1994b). In regard to the Gold Butte-Pakoon DWMA the Recovery Team states, "The Gold Butte-Pakoon DWMA should contain between 270 and 310 square miles in an elongate 'C' shape opening to the east..." (USFWS, p. 55, 1994b). An elongate "C" design does not meet the listed preferred reserve design.

The proposed combination of DWMAs/ACECs contain a high percentage of the best remaining habitat, much of which is relatively inaccessible to human disturbance. "The plan recommends reserves that are at least 1,000 sq. miles in extent with boundaries that include the best examples of desert tortoise habitat." (Duck, p. 7, 1996) The combination of agency proposals within the Northeastern Mojave Recovery Unit is almost twice that which is recommended in the Recovery Plan. This vast amount of acreage set aside and more intensive management for desert tortoise management compensates for the reserve design.

In addition to the acreage set aside for protection of desert tortoise, more intensive management is being proposed outside of the ACECs for tortoise within the Caliente Planning Area. As the Recovery Plan states on pages ii, 43 and 47; more intensive management of tortoise habitat can compensate for any lack of appropriate acreage within a Recovery Unit.

Surface disturbance would be minimized within the Special Management Areas, thus protecting tortoise habitat.

Importance of Cumulative Impacts

According to the Recovery Plan, it is cumulative impacts which have led to the listing of the desert tortoise. "A variety of other human uses have caused significant quantitative and qualitative losses of desert tortoise habitat. Urbanization; agricultural development; construction and use of transportation routes and corridors; development of utility corridors; exploration for and development of hard rock minerals, sand and gravel pits, oil and gas, and other mineral resources; and concentrated visitor use are all important causes of widespread habitat destruction. In some portions of the desert, military activities...also contribute to the degradation and loss of tortoise habitat...The combined effects of these various activities have resulted in extirpations and population declines of desert tortoise throughout the Mojave region." (USFWS, p. 10, 1994a)

"The desert tortoise was listed as threatened primarily because a variety of human impacts which cumulatively have resulted in widespread and severe desert tortoise population decline and habitat loss...Some factors are likely more important than others; for instance urbanization has probably caused more habitat loss than light cattle grazing." (USFWS, p. 45, 1994a)

"The most serious problem facing the remaining desert tortoise populations in the Mojave region...is the cumulative load of human and disease-related mortality accompanied by habitat destruction, degradation, and fragmentation." (USFWS, p. 3, 1994a)

There would be long-term, cumulative impacts to the desert ecosystem, its wildlife and special status species from implementation of the combination of proposed actions throughout the Northeastern Mojave Recovery Unit. Protection of desert tortoise habitat through DWMA/ACEC designation, implementation of management actions and protection from disturbance on approximately 1.1 million acres of tortoise habitat in southern Nevada, Northwestern Arizona, southeast California and southwest Utah would provide additional protection for the habitat of many wildlife and plant species.

Tracking of Cumulative Impacts

The potential, future tracking system for analyzing cumulative impacts within the DWMAs/ACECs in the Las Vegas District would help ensure that individually minor but collectively significant impacts do not occur. This tracking system can be considered for use throughout the desert tortoise habitat on public lands. This is consistent with the USFWS Conservation Recommendation in their Biological Opinion of August 14, 1991 which stated, that the BLM should use a Geographical Information System to analyze the cumulative impacts of livestock grazing on desert tortoise habitats on a range-wide basis.

Urbanization of Tortoise Habitat

According to the FEIS for the Clark County Desert Conservation Plan, "The greatest threat to the continued existence of the desert tortoise in Clark County has been and continues to be loss and degradation of habitat." (USFWS, Appendix A, p. 17, 1995b) According to the Tortoise Group public information pamphlet, "The rapid destruction of habitat in the Las Vegas area was one of the major reasons for the Federal listing of the tortoise as a Threatened species"

"Urban development in Las Vegas Valley has all but eliminated what may have been one of the largest and densest tortoise populations in Nevada" (USFWS, p. 68, 1995c). In addition, the remaining habitat in the Las Vegas Valley has been seriously fragmented.

The Las Vegas metropolitan area ranked second in the nation with an economic growth rate of 10.8 percent. From 1983 to 1993 Clark County's population increased from 535,108 to 919,388. By 2020 the population is expected to grow to 1,450,409. (USFWS, p 79, 1995b). Over the next ten years the Valley as a whole is expected to gain over 215,000 residents, with about 43% of the increase occurring in the Valley's unincorporated areas. (USFWS, p. 80, 1995b)

This explosive growth is expected to continue, resulting in an increasing demand on public lands in southern Nevada for infrastructure needs, utility and road corridors and recreational opportunities. Other portions of the Northeastern Mojave Recovery Unit including Moapa, Mesquite, Alamo and Ash Springs, SE Utah, NW Arizona and southern California will likely also experience population growth.

According to the Companion Document to the Recovery Plan, (USFWS, 1994b) few human activities are expected over the next several decades within the mostly undisturbed, isolated and rugged terrain of the proposed Gold Butte-Pakoon DWMA and the Coyote Springs DWMA. Public lands within the proposed DWMAs/ACECs would not be available for sale, lease or exchange.

"Population declines or extirpations attributable to cumulative impacts have occurred ... near Las Vegas, Laughlin, and Mesquite, Nevada; and St George, Utah... Future extirpations can be expected in the vicinities of all cities, towns and settlements." (USFWS, p. 3, 1994a) There are inherent impacts to the tortoise at the interface of the urban areas and desert tortoise habitat including uncontrolled dogs, OHV use, indiscriminate shooting, collecting of tortoise and vandalism.

Human population growth and urbanization is projected to continue within the Northeastern Mojave Recovery Unit which will have localized severe impacts on tortoise populations primarily through loss of habitat but also from increases in killing and harassment from people and domestic and feral dogs.

Desert tortoise habitat around cities and towns will continue to be sacrificed to urbanization. Land disposal and conversion of habitat would continue to be one of the most important impacts to the desert tortoise and tortoise habitat.

It is estimated that more than 170,000 acres of public lands, mostly in the Las Vegas Valley, would be transferred into private ownership within the Northeastern Mojave Recovery Unit during the life of this plan. Much of this land would be developed and become unsuitable as tortoise habitat but will be mitigated through collection of a \$550 per acre fee which would go into the tortoise conservation fund administered by Clark County. The money would be used to support efforts to recover and delist the tortoise.

Habitat Conservation Plans in place within the Northeastern Mojave Recovery Unit consist of the Washington County, Utah, Pahrump Landfill and the Clark County Desert Conservation Plan. The Ash Springs HCP is under consideration, and the Lincoln County HCP is being prepared. These HCPs provide a mechanism for community growth, take of tortoise, and elimination of tortoise habitat while providing money to fund projects, purchase habitat and research to help insure the survival of the species. During the Clark County Short Term HCP 1,300 tortoise were collected. The long-term Clark County Desert Conservation Plan may impact up to 113,900 acres, less than 4% of the more than 3.5 million acres of desert tortoise habitat in the county. (USFWS, p 82, 1995b) Of that 113,900 acres, 80% is likely to support desert tortoise habitat." (USFWS, p. 83, 1995b) It is projected that during the life of the permit (1994-2023) \$44,757,642 will be raised to be used for conservation of the desert tortoise. (USFWS, 1995b)

The short term Clark County HCP allowed incidental take of 3,710 desert tortoise on 22,352 acres. The long term Clark County HCP authorized disturbance of up to 113,900 acres, of which 80% is expected to support tortoise habitat. "It was determined that a numeric cap on take of desert tortoises in the permit area would be arbitrary and difficult to administer." (USFWS, p. 33, 1995f) The number of tortoise which will be directly and indirectly impacted through development of the 113,900 acres in the Las Vegas Valley is unknown.

The Harrich Investments, LLC property (formerly Aerojet) includes some of the best remaining undisturbed tortoise habitat. (Karl, 1981) The future of this property is unknown. If it were to become available an attempt would be made by the Bureau of Land Management to acquire it for tortoise conservation purposes. There is a possibility that the BLM would enter into an exchange with Harrich, to exchange Harrich leased lands for Harrich patented lands. If this would occur, it would only do so to enhance ACEC reserve design as well as improve critical desert tortoise habitat and there would be no net loss of critical habitat to the BLM. Conversely, if more land were to be developed in this area, human impacts would increase in the Coyote Springs ACEC.

Habitat fragmentation from human impacts would continue in tortoise habitat throughout the Northeastern Mojave Recovery Unit except in the designated DWMAs/ACECs which would be managed to preserve and/or restore their natural integrity. In these areas the effects of existing habitat fragmentation would be lessened through reclamation. The public lands within these DWMAs/ACECs would be retained in public ownership.

Management Oversight Group (MOG)

The majority of land in the Northeastern Mojave Recovery Unit is public land, which facilitates recovery of the tortoise. The fact that these public lands are managed by a variety of agencies could potentially hamper efforts to achieve a consolidated approach to desert tortoise recovery; however, the MOG, as an interagency coordinating committee includes representatives of all affected agencies to ensure a coordinated effort in regard to implementation of the goals and objectives of the Recovery Plan.

Monitoring

A monitoring method (Distance Sampling) has been selected by the MOG. The coordination of monitoring by the Interagency Monitoring Committee which is proposed in the Arizona Strip and the Caliente LUP Amendments would help to provide accurate information on population numbers and trends in order to successfully evaluate recovery of the desert tortoise.

Transportation Routes and Corridors

"Substantial numbers of desert tortoise are killed on roads." (USFWS, p. 58, 1994a) Tortoise would continue to be killed by vehicles on the roads and highways in proportion to the volume of traffic during the tortoise active season and the density of the tortoise population. "Heavy recreational use at Lake Mead National Recreation Area probably results in road mortality..." (USFWS, p. 57, 1994b) Disruption would also occur from construction, maintenance and loss of habitat. New barriers to movements would be created by the addition of roads within the Northeastern Mojave Recovery Unit. As the volume and speed of traffic increases in the Northeastern Mojave Recovery Unit there would be the potential for increased numbers of tortoise killed on roads. This trend would be tempered by the construction of highway fences and road barriers as required in Clark County's Sec. 10 permit for their Desert Conservation Plan. Also, the impact would be reduced by modification of existing culverts to provide for better underpasses for tortoise.

NDOT manages approximately 1,000 miles of roadway throughout desert tortoise habitat in Clark, Lincoln, Nye, Esmeralda, and Mineral Counties. About 900 miles of this is within the Northeastern Mojave Recovery Unit. In addition there are many miles of County and BLM roads throughout tortoise habitat.

The Clark County HCP specifies procedures for NDOT to follow during normal and emergency maintenance activities and construction activities in order to protect tortoise. For example, mowing of vegetation will only be allowed from June 16 through February 28. The area of NDOT activity covered by this plan includes approximately 1000 miles of roadway (affecting about 2,900 acres) through desert tortoise habitat in Clark, Nye, Lincoln, Mineral and Esmeralda Counties that are presently maintained by NDOT. Incidental take will be allowed in connection with the maintenance of roads, highways and material sites. NDOT and Federal Highway Act material sites remain active until relinquished.

During 1996, highway barriers were installed along I-15 and State Route 161 in conjunction with a tortoise relocation program. Tortoise proof barriers are also being installed along US Highway 95 in Piute Valley. These barriers will be monitored and evaluated for their effectiveness and longevity. Currently, Clark County's Implementation and Monitoring Committee is evaluating which roads should have priority for fencing over the next few years.

Clark County and the Nature Conservancy have begun constructing tortoise barriers along US Highway 95 within Piute Valley during the interim consultation period. The number of miles that will be completed is unknown at this time, as the project is experimental and it is being implemented privately by supervised volunteers.

All roads within the proposed northern DWMA's (Coyote Springs, Mormon Mesa and Gold Butte-Pakoon) have been surveyed using GIS. The BLM will use this information to determine appropriate road designations so that when the planning efforts are completed the road designations can be made and the signs posted.

Interstates such as I-15, US 93 and US 95, and railroads, concentrated around major population centers, would continue to form important barriers to movement of the desert tortoise throughout the Northeastern Mojave

Recovery Unit. The high speed roads constitute major barriers to tortoise movements and have created "sinks" where as tortoise are killed on roads, other tortoise move into the area to take their place, only to meet the same fate. The modification of existing underpasses would allow for movements and gene flow between populations. The proposed tortoise proof fencing along roads would limit their movement but would reduce the number of road kills. The proposed road closures in Special Management Areas and limitations of casual use to designated roads and trails would protect the tortoise by limiting and directing public backcountry use.

Mining

There is little surface disturbance from active mining or oil and gas activities throughout the Northeastern Mojave Recovery Unit. Sand and gravel extraction is expected to be the most active future mining use. NDOT anticipates 26 road widening projects resulting in 494 acres of disturbance and the need for about three new materials sites per year for the next three to five years and one per year thereafter adjacent to existing roadways in Clark, Lincoln and Nye Counties. (Clark County, p. 53, 1994). A maximum of about 2,400 acres of land may be developed as material sites over the thirty year term of the USFWS Section 10 (a) permit. (Clark County, p. 53, 1994). While this permit includes the majority of desert tortoise habitat in Nevada, similar types of disturbances will occur in other portions of the Northeastern Mojave Recovery Unit in Utah, Arizona and California, but to a lesser degree since there is a lower rate of population growth in these rural areas.

The material sites created to provide sand and gravel for the roads would disrupt tortoise habitat. However, NDOT has agreed to relinquish several material sites ROWs in the Piute/Eldorado ACEC. They would also be locating their regional material sites outside of any designated Tortoise Special Management Areas. No new material sites would be located within the designated DWMAs/ACECs for tortoise. Existing sites within these areas would be rehabilitated once they are relinquished by the permit holder. Recovery, however, would take a long time.

Military Activities

Continued weapons testing/training at Nellis may affect an estimated 12 desert tortoises annually. Plus, these activities would further annually degrade 971 acres of disturbed desert tortoise habitat associated with target impact zones. Desert tortoise may be impacted by vehicles on maintenance roads or traveling off-road, by ordnance activities within unfenced target impact zones, wildfires caused by ordnance, illegal collecting of tortoise, or from noise and vibrations. It is the Biological Opinion that continuation of the current weapons testing/training on the DNWR is not likely to jeopardize the continued existence of the desert tortoise.

Department of Energy

Any activity on the Nevada Test Site (NTS) which may affect desert tortoise is carefully regulated and efforts are made to minimize negative impacts. Access to NTS is restricted which protects tortoises from collection or harassment by the public. These animals are also isolated from exposure to released pet tortoises that may be infected with URTD. Since NTS is restricted access, no permits for commercial or competitive events are issued. DOE/NV security and management guidelines prohibit grazing, hunting, trapping, carrying firearms, off-road driving and harassing wildlife. Use of hazardous materials is strictly controlled. DOE/NV employees and contractors must complete a tortoise education program (U.S. Department of Energy, Nevada Field Office, Biological Assessment of the Effects of Activities of the U.S. Department of Energy, Field Office, Nevada on the Threatened Desert Tortoise, July 1991).

Wilderness

There are more than one and a half million acres within the Northeastern Mojave Recovery Unit which are under consideration for designation as wilderness. Some of these lands include tortoise habitat. The eventual designation as wilderness of portions of tortoise habitat would serve to provide additional protection for the tortoise. For the tortoise habitat within existing WSAs which are not designated as wilderness, Section 7 consultation with the USFWS would provide protection. Those portions of DWMA's or ACECs within WSAs which are released from further consideration as Wilderness would be managed under their respective desert tortoise protective designation.

Upper Respiratory Tract Disease

URTD would continue to be endemic within the tortoise population and continue to cause fatalities. There is no known cure for infected tortoise. "In the Mojave population the outbreak and incidence of URTD appears to be closely correlated with known and suspected release sites for captives, as well as with the proximity to urban development and degree of human access." (USFWS, p. D-8, 1994a) Public education, law enforcement and limitations on public access would help to minimize release of diseased tortoises and spread of the disease. The tortoise populations within the more isolated habitats would be less likely to contract URTD since release of infected tortoise is unlikely to occur in the more remote locations. Improved nutrition for the desert tortoise through improvement in their habitats and perennial vegetative communities will cause the tortoise to be less susceptible to this and other diseases.

Environmental Education

The combination of environmental education efforts by the variety of agencies would promote public awareness and should help to reduce vandalism, unauthorized collection and the spread of URTD through fewer releases of diseased tortoise into the wild.

Law Enforcement

Implementation of the goals and objectives of the Recovery Plan would strengthen existing regulatory mechanisms to protect tortoise and their habitat. Since the listing of the desert tortoise as threatened, protection of their habitats would also be a higher priority for law enforcement.

OHV Activities

Throughout the Northeastern Mojave Recovery Unit "OHV activities are among the most destructive, widespread, and best documented of threats to the survival of desert tortoises...and to the integrity of their habitats..." (USFWS, p. D-16, 1994a)

It is expected that all DWMA's/ACECs, once established through the BLM planning process, would be closed to motorized travel or use limited to designated roads and trails.

On August 30, 1995, the USFWS completed their Programmatic Biological Opinion on the Proposed Issuance of Special Recreation Use Permits for Speed-Based Off-Highway Vehicle Events in the Las Vegas District. The purpose of the programmatic biological opinion was to better assess the overall impacts of the Bureau's OHV program, and replaces previous documents, with greater protection of areas designated for recovery of the tortoise, and will be in effect for a period of five years from the date of issuance. USFWS Terms and Conditions and Bureau Special Stipulations would be strictly adhered to, and OHV events in the Piute/Eldorado Valley ACEC/DWMA have additional Service Conditions and seasonal restrictions.

"OHV use has increased and proliferated since the 1960's" (USFWS, p. D-16, 1994a). Casual OHV activity not associated with organized events occurs continuously in the race areas near metropolitan areas, and has a much greater effect on the desert tortoise and its habitat than regulated OHV events.

In their Biological Opinion for Las Vegas District and the Caliente Resource Area, the USFWS anticipated that two tortoise may be accidentally injured or killed during the speed OHV events each year and a total of 941 acres of disturbed desert tortoise critical habitat may be further degraded during OHV events each year.

Recreational use of tortoise habitat outside of DWMAs/ACECs would continue to cause direct mortality of tortoise, habitat damage, and result in collection and unauthorized release of tortoise. "The use of OHVs appears to have a significant effect on tortoise abundance and distribution. Although road closures have been implemented in some areas illegal vehicle route proliferation has also occurred in many areas and can result in significant cumulative loss of habitat." (USFWS, p. 5824, 1994d)

Outside of the DWMAs/ACECs for tortoise, impacts of competitive OHV events would continue and would include habitat impacts such as loss of soil from erosion, soil compaction, destruction of plants, burrows, and crushing of some individual tortoises. In addition to the OHVs, spectators at competitive events can have as much or more impact on tortoise and their habitat. This would be controlled through the use authorization and law enforcement. Casual OHV and recreational use on public lands is expected to increase. (USFWS Biological Opinion File No. 1-5-97-F-237) Impacts to tortoise habitat in proposed ACECs would be minimized by closing some of the existing trails, restricting organized OHV events to designated roads, and limiting casual use to designated roads and trails.

Human Predation

According to the Recovery Plan, (USFWS, p. D-3, 1994a) many former residents of other countries are bringing their traditional practices of using tortoise for human consumption as they immigrate to Las Vegas and elsewhere in the west. Also, "...commercial poaching of rare, threatened, and endangered species is well documented, and in some cases, a lucrative business." (USFWS, p. D-5, 1994a) Human predation and vandalism of desert tortoise would continue but at a lesser rate in spite of the increasing human population. Factors which would contribute to this decrease consist of the variety of environmental education efforts ongoing and proposed, increased law enforcement activity, and limitations on public access into the tortoise DWMAs/ACECs.

According to the USFWS over 100,000 desert tortoise were in captivity prior to its listing in 1990. (USFWS, 1994a) People can now adopt tortoise from the Desert Tortoise Conservation Center.

Predation

"Predation by the common raven (*Corvus corax*) is intense on younger age classes of the desert tortoise and the Fish and Wildlife Service's Breeding Bird Survey Program provided data to show a 15-fold increase in raven populations in the Mojave Desert...from 1968 to 1988..." (USFWS, p. 6, 1994a) "Berry (1990, as amended) believes that predation pressure from ravens probably has resulted in such high losses of juveniles in some portions of the Mojave region that recruitment of immature desert tortoises into the adult population has been halted." (USFWS, p. 6-7, 1994a)

Common raven populations have increased significantly in the southwestern deserts since the 1940s. Human use and activities have increased available foraging, roosting and nesting opportunities for ravens. These birds

are highly opportunistic in their feeding habits and concentrate on easily available seasonal sources of food such as juvenile tortoise. (USFWS, p. 5824, 1994d)

The closure of the scattered open dumps throughout the Northeastern Mojave Recovery Unit would help to limit the raven and coyote population, both of which prey on the tortoise. In spite of this effort the trend of an increase in the raven population within the Northeastern Mojave Recovery Unit is expected to continue from a combination of factors including road kills as a food source, refuse, feedlots, range water developments and the raven's status as a Federally protected species. The anticipated increase in the raven population would increase the raven's detrimental impact to small tortoises, mostly less than 4 inches in shell length. A 20 year old tortoise is considered an adult and is not known to be preyed upon by ravens.

"Towers supporting transmission lines also provide predatory birds with new perching and nesting sites which are otherwise scarce in the generally treeless habitat of the Mojave region..." (USFWS p. D-14, 1994a) In one three year California study 62% of the 564 shells of juvenile desert tortoise were found associated with raven perch or nest sites, most of which were along powerlines. (USFWS, p. D33, 1994a) The transmission towers would continue to serve as perches from which ravens will continue to prey on tortoise.

"Raven predation on juveniles (up to 20 years old) can be a threat to the long-term persistence of desert tortoise populations." (USFWS, p. D-33, 1994a) Because raven populations are projected to increase throughout the Northeastern Mojave Recovery Unit they will continue to have a serious impact on survival of juvenile tortoise. Localized control on predator populations, as proposed in the Caliente Amendment, and the Dixie RMP would allow for survival of a greater number of juvenile tortoise to a reproductive age. The proposed management actions which limit their food source, nesting and roosting opportunities may result in lower rates of increase in populations. As is pointed out in the Recovery Plan, however, a healthy population of desert tortoise only has a 2% survival rate from birth to adulthood and a substantial die-off of young is normal.

Forage Utilization

Grazing by domestic livestock has changed the vegetative composition within the Northeastern Mojave Recovery Unit. (Oldemeyer, p. 97, 1994) There is scientific disagreement as to whether or not this change in vegetation is permanent. With the existing surface disturbance, the establishment of exotic annuals and the fire re-burn cycle, the native perennial may never be able to become predominate again. Even with limitations on grazing in tortoise habitat, the low precipitation zones which exist throughout the Northeastern Mojave Recovery Unit would not allow for rapid improvement in vegetative conditions for tortoise. Shreve and Hinkley (1937) and other researchers have shown slow increases in native perennial grass cover in deserts with protection from grazing. Sid Slone, Wildlife Biologist for the BLM, has observed an increase in bush muhly in the Paiute Valley since grazing was eliminated. (Slone, 1997, personal communication)

The acquisition of grazing privileges through implementation of the Clark County Short Term HCP was a conservation measure for the desert tortoise. An estimated 419,150 acres of tortoise habitat has been closed to grazing or is in voluntary non-use. However, there has been trespass livestock problems on some of the non-use allotments.

If grazing privileges are retired as anticipated, then 36,900 acres of tortoise critical habitat in the Nevada portion of the Beaver Dam Slope ACEC would be closed to grazing and 25,600 acres of the Rox-Tule Allotment would be closed to grazing. In addition, efforts are underway to fund the purchase of allotments in the Pakoon Basin which would then be retired. The combination of these proposals would lessen grazing use in the Northeastern Mojave Recovery Unit and potentially provide more forage for the tortoise as well as improve the quality of forage in the long term.

One livestock grazing allotment and parts of three others would be closed to livestock grazing in Arizona. Five allotments in Arizona would have no spring or summer grazing. Grazing on one entire allotment and two pastures of a second allotment in Utah would be restricted to the period October 15 to March 15 of each year. Three allotments in Nevada would be closed and portions of 6 others, affecting approximately 12 operators. Monitoring of livestock grazing and vegetation utilization would help to maintain vegetation for the tortoise and other users.

The designated critical habitat within the Northeastern Mojave Recovery Unit is overlapped by 45 different grazing allotments. (USFWS, 1997b) Approximately 100% of the acreage within the designated critical habitat has been grazed by livestock in the past. (USFWS, 1997b) Twenty three percent (349,225 acres) of the critical habitat within the Northeastern Mojave Recovery Unit is not grazed by livestock because of voluntary non-use for conservation purposes under the Clark County Desert Conservation Plan.

Limitations on grazing by domestic livestock and wild horses would increase the amount of spring forage available for desert tortoise and reduce the trampling of shallow dens. In the long term, the amount of perennial grasses would increase, improving forage and cover for desert tortoise. Outside of the tortoise ACECs and DWMAs grazing would be managed in accordance with the modified 1991 Biological Opinion on livestock grazing in tortoise habitat issued by the USFWS.

Throughout the Northeastern Mojave Recovery Unit tortoise could potentially benefit in the long term from reduction in grazing pressure from cattle since desert tortoise and cattle have an overlap in food habits (Oldemeyer, p. 100, 1994) The lessened competition would be most beneficial during the spring months. The desert tortoise obtains much of its annual nutrient intake during the spring blooms after the annual rains. It would be a long term impact since, "...the recovery of heavily used arid rangelands probably requires decades." (Oldemeyer, p. 97, 1994)

In those areas where livestock are removed, the desert wildlife could be deprived of the use of livestock water developments which were formerly maintained by ranchers. The BLM would, however, determine which waters were needed and replace them for wildlife use.

"An analysis of exclosures and other protected areas revealed the perennial-grass cover in deserts has increased with protection from grazing...The rate of succession is controlled to a large extent by the moisture conditions of the substrate...thus one expects deserts to improve very slowly after reductions in livestock numbers. However, the ecological condition may never improve as long as exotic annuals are a permanent component of the flora." (Oldemeyer, p. 98, 1994) Thus, the moisture conditions and the presence of exotic annuals will be determining factors as to whether or not there are changes in ecological condition after removal of grazing.

The results of the spring 1997 Ely Field Office ecological status inventory (ESI) study of critical desert tortoise habitat within Lincoln County predicted that change in the vegetation to a dominance of native perennial plants after removal of grazing would not occur during the short term, and probably not during the life of the plan (25 years), but could occur in some portions of the Recovery Unit at some unidentifiable point in the future.

Within the Clark County portion of the Northeastern Mojave Recovery Unit where grazing by domestic livestock has been eliminated, 82 springs and 1.7 miles of perennial stream are being improved through reduced sedimentation and direct water quality deterioration from coliform bacteria. If vegetative ground cover improves there would be better infiltration, reduced surface runoff and improved groundwater recharge. This would also help to reduce the current rate of salt-loading into the Colorado River through improved stabilization of the soils. These types of impacts would also occur elsewhere within the Northeastern Mojave Recovery Unit.

Grazing by wild horses and burros would be excluded from special management areas in order to improve the habitat for desert tortoises. This would result in a reduction of twenty to seventy-five wild horses and the conversion of one to two herd management areas.

The limitations on grazing would result in a change in the vegetation composition over the long-term in portions of the Northeast Mojave Recovery Unit to native perennials becoming a greater component in relationship to annual exotics. This would help to meet tortoise nutritional needs and likely result in greater reproductive success and better resistance to disease. The vegetation change would also provide for more escape cover from predators. If tortoise nutrition is improved they would grow to an adult size more quickly and there would be fewer years during which each individual would be vulnerable to predation.

Fire

Fires become more frequent as they feed on the exotic annuals. The cured annuals would also carry the fires into the desert shrub communities which can eliminate important thermal cover for the tortoise.

"Fire causes loss of vegetation cover, changes in plant species composition and diversity, an increase in soil erosion and flooding, and direct mortality of desert tortoise (or their eggs). The effect on desert tortoise populations has not been quantified, but is potentially considerable." (USFWS, p. 48, 1994b) "Ironically, in years with high rainfall that could produce greater amounts of potential food for desert tortoises, more fires occur which endanger desert tortoises and destroy shrub cover necessary for suitable desert tortoise habitat." (USFWS, p. D-24, 1994a). Limitations on livestock grazing may create situations of greater fuel buildup and result in larger and more intense fires.

The re-burn cycle would limit the potential for conversion of ecological sites from exotic annuals to native perennials.

Fire and suppression activities in the Northeastern Mojave Recovery Unit would continue to affect tortoise and their habitat in direct and indirect ways. The direct effects include injury or death from heat or smoke, and crushing of the tortoise or their burrow from vehicles used in suppression activities. Indirect effects include the invasion of exotic annuals leading to a more flammable fuel type, more frequent, larger and intense fires; and a loss of shrubs which provide important thermal cover for tortoise. Fire suppression activities may create additional access for OHV into previously unroaded areas. Fire management would be done in accordance with the Recovery Plan and with consideration of the direction provided by the fire management guidance from the interagency effort at the Boulder City Fire Management for the Desert Tortoise Conference in January of 1995.

Habitat Acquisition

There is little opportunity for habitat acquisition within the proposed DWMAs/ACECs because of the lack of private properties. There could be only minimal benefit to the desert tortoise since there is little to acquire.

Habitat Restoration

The Las Vegas Field Office developed a land disturbance rehabilitation plan for the Piute-Eldorado DWMA in FY 1997. This rehabilitation plan could serve as a model for the rest of the DWMAs/ACECs within the Northeastern Mojave Recovery Unit. The successes could be repeated within other areas.

Desert tortoise would benefit from the long-term rehabilitation of their native habitats.

Utilities

The more than 100 miles of flood control structures protecting Las Vegas would need to be maintained and would continue to function as barriers to movement of tortoise and fragment habitat. Powerline and telephone line structures would continue to provide nesting and roosting sites for predators of the desert tortoise in an otherwise treeless desert. The maintenance and access roads for these facilities would provide for public access routes into the backcountry.

OHV Events

The varied management strategies for non-speed OHV events among Districts would have the effect of limiting these types of events to the most restrictive management prescription in all cases where the event would cross administrative boundaries. The Code of Federal Regulations (43 CFR 8372.1-1) requires a special recreation permit to be issued in most circumstances involving 50 or more vehicles. Although the Ely Field Office continues to rely on this regulatory threshold for requiring a permit, the Las Vegas Field Office has proposed to require a permit for any organized event involving 26 or more vehicles.

Together with other regulatory differences between jurisdictions, promoters would be faced with navigating through a variety of differences to conduct a multi-jurisdictional organized event. For instance, the Ely Field Office would allow a group of 35 vehicles to conduct a non-speed event through ACECs on designated roads at any time of year without a special recreation permit. However, if the event originated within the Las Vegas Field Office jurisdiction, the event would not be allowed at all between March 16 and June 14, or between August 15 and October 31. Outside of those dates, the event would likely be allowed, subject to approval of a special recreation permit (because the event would involve more than 25 vehicles).

By the same token, the same event originating within the Ely Field Office jurisdiction would not be allowed to pass into the Las Vegas area without meeting their requirements. Since the Ely Field Office would not require a permit, the event organizer would have to apply for approval from the Las Vegas Field Office. Similar circumstances exist between Ely or Las Vegas, and the Arizona Strip Field Office, which would not allow the event to be conducted during the tortoise active season. Events that could be allowed during the tortoise active season by either Ely or Las Vegas would not be allowed to pass into the jurisdiction of the Arizona Strip Field Office.

Of the five corridors designated for use by non-speed OHV events, only Kane Springs Road lies entirely within the Ely Field Office jurisdiction. The Kane Springs Road, which branches off highway 93 some 75 miles north of Las Vegas (and approximately 75 miles west of Mesquite via state highway 168) would be an unlikely place for an event promoter to begin their event since it would involve considerable shuttle time and cost for participants. It would not be expected to receive many, if any, events displaced by surrounding restrictions, but might be expected to be used as a corridor for events permitted through Las Vegas and using other lands within Clark County. Even if Kane Springs Road became the target of displaced events from other areas, the character of the road (a wide, hard-surface, county-maintained road) would easily accommodate OHV events without directly disturbing additional tortoise habitat.

The differences between jurisdictions could result in confusion among event organizers, and perhaps a concomitant level of inadvertent non-compliance with restrictions in the more restrictive areas, at least in the short term. However, because there is no substantial population base in the vicinity of the planning area to originate events from the less-restrictive Ely Field Office jurisdiction, very few, if any, events would be likely to originate in Lincoln County and cross into the more restrictive surrounding jurisdictions. Virtually all events would continue to originate in Las Vegas, or Mesquite, Nevada; and St. George, Utah.

The restrictions imposed in some areas would reduce use levels in the adjacent, less restrictive areas. Even though the Ely Field Office has not adopted the regulatory strategy of the surrounding field offices, use levels might be expected to drop off in Lincoln County due to event promoters' inability to navigate through surrounding field office's OHV regulations in order to gain access to southern Lincoln County, and points north.

LIVESTOCK GRAZING

For the entire Northeastern Recovery Unit, the reduction of 16,213 AUMs represents a decline in capital asset value of \$810,650; and a loss of potential net ranch income estimated at \$72,958.50.

Because livestock grazing represents a relatively small portion of economic activity in Southern Nevada and Utah, no noticeable adverse economic effects would occur to the economy as a result of the reduction in livestock grazing activities. There would be no noticeable multiplier effects upon purchases and sales, or income and employment. Individual operators would have sustained personal losses, however that potential has been significantly ameliorated by the Clark County Desert Conservation Plan.

Of the 16,213 AUMs proposed for reduction 12,122 AUMs have been or are in the process of being purchased by the Clark County Habitat Conservation Fund. The above reductions are within three BLM administrative areas; Las Vegas Field Office, Ely Field Office, and Arizona Strip Field Office. The purchases are primarily within Clark County, but a few have been made in Lincoln County, Nevada, and none have been purchased in Arizona.

For individual impacts to operators refer to Chapter 4 in this plan and the other plans for Las Vegas, Arizona Strip, Tonopah, and Utah.

Conclusion

For an overview of the cumulative impacts as they specifically relate to the desert tortoise see the Cumulative Impacts Summary Table 4-12 at the end of this section. According to the Recovery Plan (USFWS, p. C-12, 1994a) the most important condition of extinction which desert tortoise must contend with today are the extrinsic forces which have increased to levels never encountered by the desert tortoise during its evolutionary history. These include urbanization, URTD, raven predation, habitat fragmentation and changes in the vegetative composition. "... maintaining high survivorship of adult tortoises is the key factor in the recovery of this species." (USFWS, p. 27, 1994)

It is the cumulative impacts which have led to the listing of the species as threatened, not any one factor. Some of the important contributors to the demise of the desert tortoise are impossible to halt, such as the continued urbanization in the prime tortoise habitat of the Las Vegas Valley. Addressing all of the controllable factors which minimize the extrinsic forces and maintain survivorship of adult tortoises will maximize the potential for recovery and delisting.

"An obstacle to past and current research is the preponderance of unpublished literature and lack of scientific hypothesis, especially on studies of desert tortoise (*Gopherus agassizii*). Important management decisions have been made without adequate knowledge about the biology of the affected species." (Germano, p. 187, 1994) "Retention of the threatened status of the tortoise is a conservative strategy for the conservation of natural resources but should be reassessed when additional data are available." (Corn, p. 85, 1994) The increasing knowledge of tortoise biology and the interagency monitoring of tortoise populations and trends will combine to provide the data needed to determine whether the goals and objectives of the Recovery Plan are being met.

There is professional disagreement regarding whether or not livestock can be allowed to graze and still provide for recovery of the desert tortoise. The cost of waiting to proceed until the agencies have more definitive information on this subject has been considered. Delaying implementation of the goals and objectives of the Recovery Plan until more definitive studies of the interaction between livestock and desert tortoise have been completed, could prove detrimental to the survival of the tortoise species within the Northeastern Mojave Recovery Unit.

Since the desert tortoise has been listed as threatened by the USFWS, the mandate of the BLM is to help recover the species. While there are a number of subject areas for which there is less than 100% complete information, there is enough information to allow for a reasoned choice among alternatives. The cost of waiting to proceed with implementation of the Desert Tortoise Recovery Plan until more complete information was available has been considered. It was determined, however, that delaying implementation of the Recovery Plan could prove detrimental to the survival of the desert tortoise within the Northeastern Mojave Recovery Unit. Also, see response to public comment 17.11 on incomplete and unavailable information.

Implementation of the goals and objectives of the Recovery Plan as coordinated by the MOG throughout the Northeastern Mojave Recovery Unit would help maintain portions of the Northeastern Mojave Recovery Unit in a natural condition; and would have important local but minor regional social and economic impacts.

The cumulative effect of implementation of the Recovery Plan throughout the Northeastern Mojave Recovery Unit, would preserve and protect an adequate amount of habitat to meet the goals and objectives of the Recovery Plan. Additionally, adverse impacts from human activities would be reduced in accordance with the Recovery Plan. Implementation of the goals and objectives of the Recovery Plan throughout the Northeastern Mojave Recovery Unit would result in a long-term increase in the desert tortoise population and meeting the delisting criteria ultimately justifying the delisting of the species. There will be a period of time, however, during which beneficial impacts to the tortoise would still be forthcoming. "These populations grow slowly, and significant improvement in the status of the Mojave population will be a very long process..." (USFWS, p. 5823, 1994)

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Management Direction	No special status prior to the state laws protecting tortoise. The 1988 BLM Rangewide Plan attempted to prevent the need for listing of the species by the USFWS. Listed as Threatened in 1990 by the USFWS. Critical habitat of 846,000 acres within the Northeast Mojave Recovery Unit designated in 1994. Recovery Plan completed in 1994.	Land management agencies within the Northeastern Mojave Recovery Unit are implementing the goals and objectives of the Recovery Plan through modification of land use plans. MOG coordinating the effort.	Implementation of the goals and objectives of the Recovery Plan within the Caliente RA.	Implementation of the goals and objectives of the Recovery Plan throughout the Northeastern Mojave Recovery Unit by the land management agencies. More intensive management within the DWMAs/ACECs on approximately 2,000 square miles of tortoise habitat within the Northeastern Mojave Recovery Unit. Perhaps more management attention to protect tortoise habitat outside of the Special Management Areas.	The individual agencies efforts to recover and delist the desert tortoise would not, by themselves, achieve the purpose of the Recovery Plan. The proposed management actions, in combination, would enhance the probability of the tortoise being delisted within the Northeast Mojave Recovery Unit.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Predation	Major natural predators have been ravens and coyotes.	Ravens are Federally protected species. Raven population increasing tremendously within the Northeastern Mojave Recovery Unit.	Some direct control of natural predators is proposed. Indirect control of predator populations through cleanup of dumps, routing of transmission lines, and placement of anti-perching devices on existing structures.	Continued increase in raven population in the Northeastern Mojave Recovery Unit in spite of the direct and indirect control. Some localized control of predator populations.	Increasing raven predation on juvenile tortoise throughout the Northeastern Mojave Recovery Unit. Localized predator control would minimize predation within small portions of the Northeastern Mojave Recovery Unit. Higher survival of juvenile tortoise in those areas with predator control. Predicted long-term increase in perennial vegetation would provide for escape cover from predators.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Human Predation	Historic use as food by Native Americans. Collection of the tortoise as pets or for food. Indiscriminate shooting of tortoise in the past especially near urban areas.	Public education efforts to prevent shooting and collection. Tortoise available to be adopted from Centers.	Law enforcement presence for control of human use within the DWMAs/ACECs. Public environmental education efforts to minimize human predation. Restrictions on public access into the Special Management Areas.	Continued public education and law enforcement efforts and monitoring of road closures.	Less human predation, vandalism and collection of the tortoise as pets throughout the Northeastern Mojave Recovery Unit.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Urbanization/ Development of Habitat	Establishment of cities and towns throughout the Northeastern Mojave Recovery Unit within tortoise habitat.	Growth of the cities and towns throughout the Northeastern Mojave Recovery Unit. Use of Habitat Conservation Plans to allow growth of cities while mitigating impacts to tortoise.	Lands within the DWMAs/ACECs and within designated critical habitat would be retained in public ownership.	Continued urbanization within portions of the Northeastern Mojave Recovery Unit. Development of more HCPs to allow for community growth and mitigation for habitat destruction.	Desert tortoise habitat around cities and towns would be sacrificed to urbanization. Money raised through an impact mitigation fee would be used to promote recovery efforts for the tortoise. Critical habitat and lands within Special Management Areas would be retained in public ownership. Surface disturbances within Special Management Areas would be minimized.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Transportation Routes and Corridors	Development of a transportation network to connect and service the population centers and provide public access has created barriers to tortoise movements and created "sinks" where tortoise are killed.	Expansion and maintenance of the transportation routes.	Public access limited into the Special Management Areas by restricting travel to designated roads and trails. Close some roads and trails.	Future expansion and maintenance of the transportation routes would consider impacts to the tortoise in the design plans and mitigate as appropriate. Tortoise barriers would be erected to keep tortoise off of some of the roads. Underpasses created where tortoise can safely cross.	Barriers to tortoise movements mitigated and road kills lessened to the extent of the effectiveness of the tortoise proof fences and underpasses. The major barriers of highways and railways would remain.
Visitor Use of Tortoise Habitat	Relatively little recreation use of the backcountry in the Northeastern Mojave Recovery Unit.	Expanding recreation use of the backcountry within the Northeastern Mojave Recovery Unit as a result of increasing population, road proliferation and increasing ownership of OHVs.	Caliente LUP would direct recreational use away from Special Management Areas and away from designated critical habitat. Public education efforts in regard to avoiding harm to tortoise while visiting the backcountry. Increased law enforcement presence to control visitor use.	Control public use of Special Management Areas, designated critical habitat and all others areas within known tortoise habitat. Continue public education and law enforcement efforts.	Control of public recreational use, public education efforts, and increased law enforcement efforts should lessen backcountry visitors impacts on tortoise in spite of the projected increase in visitors. Vehicle use within Special Management Areas would be controlled.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Fire	Historically, there were few fires within the Northeastern Mojave Recovery Unit. The introduction of non-native annuals provided a fuel source to carry fire within the Northeastern Mojave Recovery Unit.	Fire size, intensity and frequency has increased over the past due to fuel buildup and the presence of more people who can accidentally start fires.	Fire control with minimum impact to the tortoise and its habitat.	Do fire control in accordance with accepted practices within tortoise habitat. Lessened grazing pressure may lead to more fuel buildup which may lead to greater fire size and intensity. Less grazing pressure may also lead to a decrease in annuals in some areas and an increase in perennials possibly reducing the chance of fire.	Fire would continue to have direct and indirect impacts to tortoise. Minimum impacts to tortoise habitat from fire control methods. Wet years with no grazing could create greater potential for larger and more intense fires with direct and indirect impacts to tortoise. The reburn cycle would lessen the potential of conversion of ecological sites from exotic annuals to native perennials.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Forage Utilization	Introduction of domestic livestock and buildup of wild horse herds within the Northeastern Mojave Recovery Unit. Grazing by domestic livestock for the past 140 years.	Wild horses are being kept within AML within herd management areas. Livestock use throughout the Northeastern Mojave Recovery Unit much reduced over historic levels. Some permittees being bought out.	Close Special Management Areas to grazing. The Sand Hollow, Beacon, Rox-Tule, and portions of 6 other allotments would be closed to grazing upon completion of this land use plan. Purchase by Clark County of AUMs for domestic livestock within Special Management Areas on a willing seller basis. Eliminate wild horses from within the Special Management Areas.	Purchase of AUMs within Tortoise Management Areas on a willing seller basis. Some allotments closed to grazing. Allotment evaluations will be completed which could result in adjustments to grazing.	Overall less grazing within the Northeastern Mojave Recovery Unit, and none or very limited grazing within the Special Management Areas. More total forage and essential spring forage available for tortoise. Some change from exotic annuals to native perennials would occur but the change would be slow and would only be expected over the long term (>25 years). Lessened predation expected from an increase in escape cover. Tortoise nutritional needs more adequately met which would likely lead to more reproduction and better tolerance to diseases.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
URTD	Probably introduced to the populations of wild tortoise by release of infected pet tortoise.	Public education efforts to prevent spread of the disease to wild tortoise. Research into the prevention of the disease.	Public education and law enforcement efforts.	Continued public education and law enforcement.	URTD would continue to be endemic in the tortoise population and contribute to mortality. Should be less transmission of the disease with fewer pet tortoise released into the wild, and less relocation of wild tortoise.
Habitat Acquisition	None	Habitat is being secured through funds generated through HCPs.	Secure habitat as opportunity allows.	There is very limited opportunities for habitat acquisition in the Northeastern Mojave Recovery Unit since the proposed Special Management Areas are virtually all public lands.	Any habitat acquisition would protect habitat from development and enhance tortoise recovery.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
OHV Use	Historical increase in OHV use throughout the Northeastern Mojave Recovery Unit. Little to no regulation.	Use concentrated around population centers. Close regulation of competitive events.	OHV use closed, or limited to existing roads and trails within all DWMA/ACECs. Some roads and trails closed to limit public access. No competitive events within DWMA/ACECs.	Increasing OHV use throughout the Northeastern Mojave Recovery Unit. Protection of the ACECs/DWMA from OHV use through road closures, law enforcement and public education.	Minimal disturbance of tortoise habitat within the ACECs/DWMA. Increasing disturbance outside of the management areas from casual OHV use.
Mining	Little surface disturbance from mining activities within the Northeastern Mojave Recovery Unit.	High interest in mineral materials to serve the needs of the expanding communities.	Require Plans of Operation within ACECs and/or withdraw ACECs from mining.	There would be an estimated 6,000 acres of surface disturbance from mining activities throughout the Northeastern Recovery Unit during the life of the plan.	Tortoise habitat would be impacted by surface disturbance from projected mining activities. Required reclamation would help to minimize this impact.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Utilities	Powerlines, transmission lines and telephone lines constructed throughout the Recovery Unit, often with a developed maintenance road.	Maintenance of existing structures, lines and roads. Expansion of the utility network.	Avoidance of the Special Management Areas in routing of new lines, and/or the attempt to confine lines to designated corridors.	Continued expansion of the utility network to serve the growing population needs.	Continued existence and expansion of the utility structures from which predatory birds can predate on tortoise and build nests, in an otherwise generally treeless desert. Maintenance roads for the utilities would continue to provide public access into the backcountry.

TABLE 4-12. DESERT TORTOISE CUMULATIVE IMPACT ANALYSIS SUMMARY

Issue	Past Actions	Present Actions	Proposed Action or Reasonable Alternative	Future Actions	Cumulative Effects
Wilderness	Designation of over 1.5 million acres within the Recovery Unit as Wilderness Study Areas.	Maintenance of the wilderness characteristics of the WSAs through application of the Interim Management Policy.	Not Applicable.	It is unknown when the wilderness designations will take place. It is also unknown which portions of the WSAs, or even lands outside of the WSAs will be designated as wilderness. Portions of the Recovery Unit will be designated as wilderness. Portions will also be released from wilderness consideration.	Interim protection of the desert tortoise habitat that is within the WSAs. Perpetual protection of the desert tortoise habitat that is included within the designated wilderness.

CHAPTER 5

CONSULTATION AND COORDINATION

INTRODUCTION

This chapter summarizes the consultation, and coordination activities conducted during the preparation of the Caliente MFP Proposed Plan Amendment/FEIS. Comments on the Draft Amendment/DEIS and responses are also included in this chapter.

The Amendment/EIS was prepared by a interdisciplinary team of specialists from the BLM Caliente Field Station, Ely Field Office, and the Nevada State Office. Technical review and support were provided by individuals from BLM and other federal and state agencies and local governments. **Table 5-1** displays the list of preparers; **Table 5-2** lists those individuals who reviewed the document.

Writing of the Caliente Plan Amendment began in December of 1994 at a Environmental Assessment level. In March of 1995, BLM determined that the scope of the plan amendment necessitated the preparation of an EIS. In the course of preparing these documents, formal and informal efforts have been made to involve the public, a variety of special interest groups and organizations, other federal agencies, and state and local governments in the planning process. Several steps of the planning process require that the public be provided the opportunity to participate. The actions taken to encourage public participation are described in the following sections.

PUBLIC PARTICIPATION SUMMARY

SCOPING

Two scoping periods, totaling 145 days, were held during the preparation of the Draft Plan Amendment/DEIS. Scoping was initiated on December 5, 1994 and continued until March 7, 1995. Over 300 letters were sent out to individuals, interest groups, and other agencies requesting input and issue identification. Legal notices announcing the scoping period were placed in newspapers serving Lincoln County and Las Vegas (Nevada), as well as St. George, Utah. A news article in the *Lincoln County Record* newspaper provided information on the plan amendment process for local residents. A Notice of Intent to prepare a plan amendment was published in the *Federal Register* (pg. 5694, Vol. 60, No. 19, Monday, January 30, 1995).

In March of 1995, BLM determined that the scope of the plan amendment necessitated the preparation of an EIS. An additional scoping period was initiated on April 4, 1995. Over 700 letters were sent to individuals, organizations, and governmental entities notifying them of the change and requesting their input or concerns. All who were contacted during the initial scoping period and those who indicated interest in this planning process were contacted during this second request for public participation. Legal notices were again published in newspapers in Lincoln County, Las Vegas, and St. George. A second Notice of Intent was published in the *Federal Register* (pg. 19761, Vol. 60 No. 76, Thursday, April 20, 1995).

In November of 1997, inquiries were sent to individuals, organizations, and/or groups who had indicated their interest during the scoping period and to individuals, organizations, and/or groups on the Ely Field Office mailing list who had indicated interest in activities occurring in Lincoln County to determine if they were still interested in the process and wanted to receive a copy of the draft EIS. This inquiry was sent to approximately 1,200 individuals, organizations, and/or groups, with 230 indicating that they were still interested.

Public Meetings

The public meetings were held to gather public input, identify issues, and develop alternatives for consideration in planning process. Those in attendance were also asked to recommend configurations and boundaries for any special management areas that might be proposed to assist desert tortoise recovery and delisting. These meetings were held in Caliente, on February 21, 1995 and in Las Vegas, on February 22, 1995. A total of 44 individuals attended the meetings: 34 in Caliente and 10 in Las Vegas.

The public meeting in Caliente was attended primarily by livestock permittees. Many of those who commented expressed opposition to any special management for desert tortoise or changes in multiple use management on public lands. Several commentors recommended possible configurations for special management areas that would minimize the impacts on public lands users.

The meeting in Las Vegas was attended by representatives of OHV groups, mining interests, and livestock permittees. Participants suggested boundaries for special management areas and recommended OHV race routes that should be designated through any special management areas that might be proposed for desert tortoise.

Written Comments

The two scoping periods for the Caliente MFP amendment/EIS generated 53 written comments. All correspondence relating to the amendment are available for review at the Caliente Field Station in Caliente, Nevada. The written comments are summarized as follows.

Two commentors expressed concerns relating to mining issues and the continued access to public lands for mineral exploration and development. General opposition to any special management actions for desert tortoises on public lands was expressed by 19 commentors. Two individuals providing written comments expressed support for actions to recover the desert tortoise. Five individuals expressed concern that OHV use might be eliminated or constrained on public lands in desert tortoise habitat. Three commentors were opposed to restrictions on land uses. A total of 10 individuals expressed concerns that livestock operations would be constrained or restricted in desert tortoise habitat. Two individuals provided comments expressing concern over restrictions on the management of wild horses and burros on public lands. One individual asked for additional information about ACECs while eight others requested to be placed on the mailing for this planning process. Inquiries were received from two U.S. Senators regarding the scope and intent of the plan amendment.

CONSULTATION

The Tribal Council of the Moapa Band of Paiutes was consulted during the preparation of this plan amendment. The Moapa Band of Paiute hold grazing privileges on the Rox-Tule Allotment, located on public lands within the planning area. Coordination meetings were also held with representatives of the Tribal Council and the Bureau of Indian Affairs to discuss issues and concerns relating to the plan amendment.

As mandated by Section 7 of the ESA, federal agencies are required to consult with the USFWS prior to the authorization or implementation of any project which may affect any federally listed species or their habitat. Several consultations have been conducted on various versions of the document: 1) informal consultation on the Preliminary Draft MFP Amendment/EIS on August 8, 1995; 2) technical comments on the Draft Cumulative Impact Analysis of the Desert Tortoise Land Use Plan Amendment to the Caliente Management Framework Plan on June 5, 1996; and 3) informal consultation on the Proposed Management of Desert Tortoise Habitat in the Northeastern Mojave Recovery Unit on October 19, 1995. This consultation was requested by the Desert Tortoise Management Oversight Group (MOG) of the various land management agencies

in the Northeastern Mojave Recovery Unit (BLM, National Park Service, USFWS) to provide information relating to future management of desert tortoise habitat in this recovery unit and; 4) informal consultation on the internal **Draft Caliente Management Framework Plan Amendment for the Management of Desert Tortoise Habitat/Draft Environmental Impact Statement** on October 9, 1997. Numerous meetings and/or telephone conversations with the USFWS have also been held to discuss the amendment. Comments and information received from these consultation and meetings were used to help develop and finalize the EIS. A formal consultation will be conducted on the Proposed Action and the USFWS will provide a Biological Opinion, within the context of total management by all entities within the Northeastern Mojave Recovery Unit.

COORDINATION

Coordination, as defined in this section, refers to efforts to achieve consistency with other Federal, state, and local land use plans. Public scoping represents initial efforts to coordinate with other entities. The public meetings were attended by representatives from local and state entities. A coordination meeting was held with the Lincoln County Public Lands Commission, the Lincoln County Commissioners designated representatives, to inform them of the contents of the EIS and provide them instructions on how to provide comments on the EIS during the public review period.

The Mojave-Southern Great Basin Resource Advisory Council was provided with status updates during this planning process. They were also provided an internal review of the document prior to issuance of the draft and coordination meetings were held with them on February 27, 1998, August 10, 1998, October 16, 1998, and January 29, 1999.

Coordination with the adjacent BLM Offices (Las Vegas, Arizona Strip, Cedar City and Tonopah), USFWS and NDOW has been ongoing throughout the planning process to ensure that the plan is consistent, to the extent possible, with the similar planning efforts that these districts are also going through. These included a few face-to-face meetings and numerous telephone conference calls.

A preliminary draft was provided in July 1997, for review to the USFWS, NDOW, National Biological Service, Clark County Government, the Mojave-Southern Great Basin Resource Advisory Council, and adjacent BLM Field Offices (Las Vegas, Arizona Strip, Cedar City, and Battle Mountain). An additional internal review was made available in February 1998, to the Mojave-Southern Great Basin Resource Advisory Council, USFWS, NDOW, and adjacent BLM Field Offices (Las Vegas, Arizona Strip, Dixie Field Office, and Tonopah Field Station). After a period of review, additional coordination meetings were held with Lincoln County Public Lands Commission on February 12 1998, NDOW on February 26, 1998, and USFWS on February 26 and August 16, 1998. Verbal comments were received from Mojave-Southern Great Basin Resource Advisory Council, USFWS, and NDOW during the coordination meetings. These comments were used to finalize the draft Amendment/DEIS for public review.

Table 5-1. List of Preparers

Name	Responsibility	Qualifications
Hal Bybee	Renewable Resources (1995 - 1997)	B.S. Range Management, B.S. Animal Science 21 years BLM
Gene L. Drais	Project Manager	B.S. Zoology 21 years BLM, 4 years BOR
Dawna Ferris	Team Leader, Cultural Resources (1995 - 1997)	M.A. Anthropology 11 years BLM
Joe Freeland	Fire	Progressing towards range degree 4 years USFS, 10 years BLM
Brenda Linnell	IRM/Editor	Business Degree 8 years BLM
Sheree Luttrell	GIS (1995 - 1998)	B. S. Biology, M.S. Wildlife Management 7 years BLM
Michael McGinty	Real Estate, Rights-of-way	B.S. Forest Management 21 years BLM
Michael Main	ESI, Soils	B.S. Range Management 14 years BLM
Gary Medlyn	Soil Scientist	B.S. Agronomy, M.S. Agronomy, Ph.D. Soil Science 13 years NRCS, 2 years BLM
Paul Myers	Socioeconomic	B.S. Economics 19 years BLM
Daniel Netcher	Mineral Resources	B.S. Geology 16 years BLM
Jacob Rajala	NEPA Review, Cumulative Impacts	M.A. Anthropology, M.S. Forestry and Range Management, B.A. Anthropology 22 years BLM
Alan Shepherd	Wild Horse & Burro	B.S. Range Management, B.S. Wildlife Management 9 years BLM, 2 years USFS
Shawn Smith	Range	B.S. Wildlife Management 7 years BLM

Table 5-1. List of Preparers

Name	Responsibility	Qualifications
Kyle Teel	Wildlife, T&E	B.S. Agriculture (Wildlife) 11 years BLM
Curtis G. Tucker	Native American Consultation External Affairs	B.S. Forestry 27 years BLM
Richard Waldrup	Recreation, Wilderness, VRM (1995 - 1999)	B.A. Sociology, M. Ed. Outdoor Recreation 9 years BLM

Table 5-2. List of Reviewers

Name	Program/Title/Agency	Review Responsibility
Robert Brown	Ely Field Office	Wild Horse and Burros
William Dunn	Ely Field Office	Fire Management
Brian Amme	Nevada State Office	NEPA/Planning
Brad Hines	Nevada State Office	Range Management
Dave Pulliam	Nevada State Office	Wildlife Management
Steve Smith	Nevada State Office	Wilderness
Larry Steward	Nevada State Office	Minerals
Dennis Samuelson	Nevada State Office	Realty/ROW
Margaret Wolf	Nevada State Office	Recreation
Arizona Strip Field Office		Complete Document
Las Vegas Field Office		Complete Document
Lincoln County Public Lands Commission		Complete Document
Mojave Southern Great Basin Resource Advisory Council		Complete Document
Nevada Division of Wildlife		Complete Document
Tonopah Field Station		Complete Document
United States Fish and Wildlife Service		Complete Document

PUBLIC REVIEW OF THE DRAFT

The Draft Plan Amendment/DEIS was sent to, and comments requested from, the general public and the following:

Federal Government Agencies

Arizona Strip Field Office, BLM
Las Vegas Field Office, BLM
Cedar City Field Office, BLM
Battle Mountain Field Office, BLM
Dixie Field Office, BLM
Bureau of Indian Affairs
U. S. Environmental Protection Agency
U. S. Fish and Wildlife Service
U. S. Geological Survey, National Biological Service

State Government Agencies

Nevada State Clearinghouse
Nevada Division of Wildlife
Nevada Division of Minerals
Nevada Division of State Parks
Nevada Division of Conservation District
Nevada Division of Environmental Protection
Nevada Division of State Lands
Nevada Division of Agriculture
Nevada Commission for the Preservation of Wild Horses

Local Governments

Lincoln County Commission
Lincoln County Public Land Commission
Lincoln County Conservation District
Alamo Town Board
Lincoln County Game Board

Tribal Governments

Moapa Band of Paiutes

Nongovernmental Organizations

Best-In-The-Desert
Wyoming Advocates for Animals
Groundshaker Motorcycle Club
Mojave-Southern Great Basin Resource Advisory Council
Motorcycle Racers Association of Southern Nevada
Southern Nevada Off Road Racing Enthusiasts

Silverdust Racing Association
Wild Horse Organized Assistance
Nevada Bighorns Unlimited
Nevada Woolgrowers Association
Animal Protection Institute
Fraternity of Desert Bighorn
Friends of Nevada Wilderness
Nevada Cattlemen's Association
State Multiple Use Advisory Commission for Federal Lands
The Wildlife Society, Nevada Chapter

Congressional

Honorable John Ensign
Honorable James A. Gibbons
Honorable Richard Bryan
Honorable Harry M. Reid

Interested/Affected Individuals

Livestock Permittees

Copies of the Draft Plan Amendment/DEIS were available for public inspection at the BLM offices listed below:

Washington Office of Public Affairs
18th and C Street, N.W.
Washington, D.C. 20240

Nevada State Office
1340 Financial Blvd.
Reno, NV 89502-7147

Ely Field Office
702 North Industrial Way
Ely, NV 89301-9408

Caliente Field Station
U.S. Highway 93
Caliente, NV 89008-0237

Copies of the Draft Plan Amendment/DEIS were available for public inspection at the public Libraries and High Schools listed below:

Lincoln County Library
P.O. Box 330
Pioche, NV 89043

Alamo Branch Library
P.O. Box 239
Alamo, NV 89001

Caliente Branch Library
P.O. Box 306
Caliente, NV 89008

White Pine County Library
Lori Romero, Director
950 Campton St.
Ely, NV 89301

Panaca High School Library
P.O. Box 268
Panaca, NV 89042

University of Nevada-Las Vegas
James R. Dickinson Library
Documents Department
4505 S. Maryland Pkwy.
Las Vegas, NV 89154

Clark County Library
1401 E. Flamingo Rd.
Las Vegas, NV 89109

University of Nevada-Reno
Getchell Library
Government Publication Dept.
Reno, NV 89507

Las Vegas Public Library
1726 E. Charleston Blvd.
Las Vegas, NV 89104

Moapa Valley Library
P.O. Box 387
Overton, NV 89040

North Las Vegas Library
2300 Civic Center
North Las Vegas, NV 89030

PUBLIC PARTICIPATION PERTAINING TO THE DRAFT PLAN AMENDMENT/DEIS**Public Meetings**

Two public meetings were held to receive comments on the Draft Plan Amendment and DEIS.

The first meeting was held in Las Vegas, Nevada on June 17, 1998. It was attended by 23 people. One was a member of Congressman Jim Gibbon's staff, fifteen were members of several OHV groups, two were representing the Mojave Southern Great Basin Resource Advisory Council, two were members of People for the USA, and two were private citizens. Five of the attendees made verbal comment during the meeting. Their thoughts are shown in comment letter 23. Four persons provided written comments that evening. One of these, Sallie Clinard, made verbal comment as well. These are letters 25 through 28.

The second meeting was held in Caliente, Nevada on June 18, 1998. It was attended by 19 people. No persons representing the Nevada delegation were in attendance. Ten were members of the Mojave Southern Great Basin Resource Advisory Council, six were representing the Lincoln County Public Lands Council, one represented Nye County, one represented the N-4 and N-5 Grazing Boards, and one was a private citizen. Twelve of the attendees made verbal comment during the meeting. Their thoughts are shown in Comment Letter 23. Two persons provided written comments that evening. Both of these, Maurice Frank and Duane Whiting, made verbal comment as well. These are letters 24 and 29.

A verbal comment was received by Gene Drais from Mildred Fay on June 26, 1998. This is documented in letter 30.

Written Comments Received

Twenty-two written comments were received during the comment period, in addition to those submitted during the two public meetings. These follow:

Federal Agencies

U.S. Environmental Protection Agency	Letter 9
U.S. Fish and Wildlife Service	Letter 19
U.S. Geological Survey	Letter 10

State Agencies

Nevada Bureau of Mines	Letter 4
Nevada Division of Natural Heritage	Letter 4
Nevada Division State Lands	Letter 3
Nevada Division of Wildlife	Letter 5

County Agencies

Board of Lincoln County Commissioners	Letter 1
Quadstate County Government Coalition	Letter 12

Other Agencies

N-4 Grazing Board

Letter 6

Business

Coyote Springs Investment, LLC

Letter 2

Harrich Investments, LLC

Letter 7

Mesquite Properties

Letter 11

Citizens

Laren Flake

Letter 17

Rey Flake

Letter 18

John O. Landreth

Letter 21

Robert W. Maichle

Letters 14 and 15

Kenneth M. Reim, P.E.

Letter 13

Jule Wadsworth

Letter 16

Shelley Wadsworth

Letter 20

W. Layne Weber

Letter 8

Duane Whiting

Letter 22

RESPONSES TO COMMENTS ON THE DRAFT PLAN AMENDMENT/DEIS

- 1.1 As stated in your comment, Lincoln County is working on a Habitat Conservation Plan (HCP) for the private land within Lincoln County in desert tortoise habitat. However, the HCP is being developed on a different schedule than this land use plan amendment. To expand the planning area to include the private land and the HCP within Lincoln County would substantially delay this planning process.
- 1.2 Thank you for your estimate of the acreage figure required for industrial, commercial and residential growth in Lincoln County over the next 20 years. Please refer to Appendix C for the revised narrative and acreage figures identified for disposal.
- 1.3 It is the intent of this amendment to provide management options that will aid in the recovery of the desert tortoise and provide for multiple use when consistent with recovery. The Coyote Springs area has the highest population density of desert tortoise in Lincoln County. The BLM recognizes that the goal of desert tortoise recovery may be furthered by land ownership pattern adjustments.

Management direction outlined in Lands Management, page 2-39 of the FEIS, has been revised to allow for the possibility of exchange of the legislatively leased lands for the legislatively transferred private holdings. Therefore, BLM is still interested in acquiring these lands if they become available. The management direction on page 2-39 of the FEIS under Acquisitions remains the same. Appendix C has been revised to reflect this change.
- 2.1 The lands located in Township 13 South and Range 63 East are within Clark County and administered from the Bureau's Las Vegas Field Office. These lands were addressed in the Las Vegas RMP and are outside the planning area addressed in this amendment. Refer to response to comment 1.3 for those lands located within Lincoln County.
- 2.2 See response to comment 1.3.
- 3.1 Because of the complexity of the desert tortoise interrelationships with its habitat and the land uses affecting it, monitoring methodologies that are technically adequate, feasible to accomplish within agency capabilities, and address the specific criteria for delisting and/or specific impacts of an activity, are being developed in concert with state and federal agency, university, and private sector experts. This is being completed through a technical advisory committee assigned by the Desert Tortoise Management Oversight Group and as identified on page 2-14 of the FEIS. This monitoring plan will be implemented in this planning area.
- 3.2 See response to comment 12.2.
- 3.3 Alternative A was analyzed in this plan, beginning on page 2-43 of the FEIS. It was designed to do as you suggest.
- 4.1 The sensitive plant species list for the planning area on page 3-22 of the FEIS has been updated to include the plant species identified in your comment letter. The Ely Field Office reference map will be updated with this information as well.

- 4.2 See response to comment 22.12.
- 5.1 Management of the areas mentioned in your letter, both inside and outside of the ACECs, will be according to bureau policies and guidelines. In addition, these areas will also receive protection, both inside and outside of ACECs, from the restrictions outlined in the plan.
- 5.2 See response to comment 5.1.
- 5.3 Seasonal utilization limits are placed on an area to monitor the level of utilization occurring on the identified key forage species for that monitoring site. The seasonal utilization limits identified for desert tortoise habitat are based on utilization limits set within the Biological Opinion for each forage type and season of use.

Grazing use by livestock and wild horses is evaluated through the evaluation process to determine if allotment specific objectives are being achieved or progress is being made toward achievement. Changes in grazing use in addition to the establishment of appropriate management levels (AML) are supported by monitoring data which includes utilization information. The utilization data is used in the development of a desired stocking rate calculation to determine the stocking rates for domestic livestock and establishing AMLs for wild horses. When combined or overlapping use cannot be separated, forage demand is proportioned to both livestock and wild horses. Following the determination of the stocking rate and AML calculations, these levels are implemented through the issuance of a Multiple Use Decision (MUD). Any reductions determined necessary through the evaluation process, for both livestock and wild horses, will be made following the issuance of the MUD.

- 5.4 Thank you for the suggested wording change. See page S-11 of the FEIS for incorporation of your suggestion.
- 5.5 The number of wild horses identified in Table S-1 Summary of Alternatives is an estimation of the number of wild horses to be captured and removed based on the most current census (presently 1997) of the areas involved. The identification of this number of animals to be removed does not limit the removal to that number.
- 5.6 See comment 21.1 and 22.12.
- 5.7 The use of the word "trails" is intended to capture some of the lightly used 2-track routes that may be necessary for access to range improvements, mining access, or other public access determined to be necessary through the public process of designating roads (and "trails").
- 5.8 Based on your comment, the word has been changed on page 1-4 of the FEIS.
- 5.9 Based on this, and other comments, the Proposed Action has been modified in this plan to prohibit all types of organized OHV events within ACECs during the tortoise's most active periods, March 15 to June 15, and August 31 to October 15. This seemed a reasonable compromise to err on the side of protection of the tortoise even in the absence of data indicating that non-speed OHV activity on existing roads poses any real threat to the tortoise or its habitat.

OHV/tortoise monitoring programs being developed for use in tortoise habitat in the Las Vegas and Ely planning areas will attempt to provide better information on the indirect effects of OHV use. At the same time, efforts in Las Vegas (informally endorsed by the BLM and USFWS) are ongoing to address the OHV management issues, and may eventually result in modifications to the management strategies currently in effect and/or proposed in the Las Vegas RMP.

- 5.10 Based on your comment, the spelling of this document has been corrected.
- 5.11 Based on your comment, this document has been revised.
- 5.12 Based on your comment, this word has been changed in this document.
- 5.13 Based on your comment, this table has been changed on page 2-16 of the FEIS.
- 5.14 The Nevada Division of Wildlife (NDOW) is identified as a cooperating agency for all of the Bureau's allotment evaluations, management plans, and other planning documents that may affect wildlife resources or their habitat.
- 5.15 The phrase "Areal right-of-way" refers to site type rights-of-way as opposed to linear rights-of-way like roads, pipelines and utility lines. Site rights-of-way are described in acres rather than a length and width. Examples of this type of right-of-way are communication sites, material sites, pumping stations and reservoirs. To remove the confusion, we have added the term to the Glossary.
- 5.16 See response to comment 5.9.
- 5.17 A temporary upgrade of an existing road is envisioned as an upgrade made necessary because of a specific project or event and would be reclaimed at the end of the project or event. An example would be a road to an oil exploration site where the existing road may be graveled or have a culvert installed to allow heavy equipment, such as the drill access to the site. After the need for the upgrade, the road would be reclaimed to pre-upgrade condition.
- 5.18 Based on your comment, the words have been changed in the Final EIS.
- 5.19 See response to comment 5.15.
- 5.20 The information requested has been updated in this document. See Table F-1.
- 5.21 Based on your comment, Table F-1 has been changed in this document.
- 5.22 Based on your comment, Table F-1 has been changed in this document.
- 5.23 The use of the words Key Species was incorrect in Table F-1. The species listed are actually Species Present and the table has been updated in this document (see Table F-1). Since the species listed were not key species, we will not revise them at this time. Key species at key areas are reviewed during the evaluation process and are sometimes modified. Yes, they can be modified during the allotment evaluation process for those areas remaining open to livestock grazing.
- 6.1 Grazing can be compatible with proper resource management, but not necessarily always consistent with specific resource objectives. In this case the resource objective is to attain recovery of the desert

tortoise. Based on the changed vegetation composition found in many of the vegetative communities of the Mojave desert with regard to the occurrence of native perennial herbaceous species and the increased abundance of exotic annuals, grazing has been determined not to be a feasible or effective tool for the purpose of achieving more suitable native vegetative composition relative to desert tortoise needs. This Proposed Plan Amendment results in a Proposed Action designed to best achieve recovery of desert tortoise, while providing for other compatible uses of public land.

- 6.2 See responses to comments 18.14 and 17.11.
- 6.3 We realize that predation on tortoise, especially by ravens, is one of several factors affecting the desert tortoise. A study in Western Mojave (California) found raven predation to account for significant mortality and perhaps as much as 85% of hatchling and juvenile mortality. These studies were in areas affected by significant human population centers, and although raven predation is undoubtedly a cause of some mortality in the Northeastern Mojave Recovery Unit, and more specifically Lincoln County, it is not believed to be at the levels described in the California study. In addition, increases in predation caused mortality have also been linked to the reduction of overall vegetation cover as a result of livestock grazing. Management actions outlined in Chapter 2, in particular on Page 2-11 of the FEIS, were developed to address these issues.
- 6.4 Specific types and numbers of studies on desert tortoise density and population dynamics with appropriate citations are described on pages 3-11 through 3-14 of the FEIS. The BLM uses the best available information in its analysis and development of decisions.
- 6.5 See response to comment 6.3.
- 6.6 Trampling of desert tortoise and desert tortoise shelter sites have been documented within desert tortoise habitat. Livestock trampling is not the primary reason, but it is one of the reasons for management actions to protect desert tortoise.
- 6.7 The DEIS incorrectly stated that information about the effects of livestock grazing on tortoise and its habitat is non-conclusive. This statement has been changed in this document to reflect more accurately the abundance of credible scientific information available and to be consistent with the analysis of impacts which reflects the preponderance of information.
- 6.8 There are trend data for both the Sand Springs and Coyote Springs areas within the planning unit and some considerable distance from urban areas. This data indicates relative stable trends in these areas. Densities in these areas of the Northeastern Mojave Recovery Unit are described as "dangerously low".
- Emphasis is being placed on other human activities and not just livestock management. Management actions to aid in the recovery of desert tortoise have been developed for mineral entry, casual and organized OHV use, general recreation, wild horse and burro management, right-of-way management, lands actions, and fire management.
- 6.9 In your letter you indicated that statements on page 4-7 and 3-13 of the DEIS were contradictory. The statements on each page were making reference to two separate issues. Page 4-7 of the DEIS states that removal of livestock would result in a greater amount of forage for the tortoise reducing the possibility of malnutrition and/or osteoporosis. You indicated that page 3-13 of the DEIS states "data

is lacking to support the contention of correlation of malnutrition to osteoporosis". However, the study quoted on page 3-13 of the DEIS is only indicating that there is a lack of evidence to support the contention that sunken skutes indicate a sign of malnutrition on young tortoise.

- 6.10 There are twenty-one or more peer-reviewed documents that describe negative effects to desert tortoise or desert tortoise habitat components by livestock grazing cited in the FEIS. There were no peer reviewed documents found in the RCI report or found for use in this analysis that documented positive or no affects of grazing on desert tortoise.

As stated on page 3-20 of the FEIS, RCI published an annotated bibliography with 850 citations. Of the total 850 citations there are 58 publications where summaries of the articles were developed that related to the affects of grazing. Fifty-three of these 58 publications (91%) describe negative affects of livestock grazing on desert vegetation. Two indicated no affect and three suggested positive affects. Twenty-two of these 58 publications specifically identified impacts to desert tortoise. Nineteen of these concluded and described negative effects on desert tortoise from livestock grazing. One described positive effects and two suggested that there are no effects of grazing on tortoise.

BLM uses the best available information in development of land use plans. This includes, but is not limited to, peer-reviewed scientific publications. Types of information used may include opinions and conclusions of agency and non-agency experts, non peer-reviewed literature, reports and other findings. Bostick, 1990, was published in Rangelands and is not a peer reviewed publication.

- 6.11 Because of the broad ranging variability and the small number of grazing operations in the area, the seasonality of forage, and the high dependency upon ephemeral-perennial range, typical ranch budgets could not be developed and statistical analysis techniques could not effectively be applied. Therefore, confidence intervals were not relevant and were not determined. However, based on previous studies, and with consideration for current market conditions, net ranch income was estimated at an average of \$4.50 per AUM. This was calculated to be a generous estimate of income per AUM in order to assure that the economic impacts that might result from proposed grazing reductions would not be understated. It would not be unusual for some ranch operations in the area to show a net operating loss after all costs, including an estimated cost for family labor, were applied.

The market, or capital asset value, of federal grazing AUMs currently ranges from \$25 to \$60 per AUM. Recent appraisals in southern Lincoln County, by Pacific Agribusiness Service for the Clark County Habitat Conservation Plan, have estimated the AUM values for several of these operations to range from \$45 to \$54 per AUM. This appraisal takes into consideration the existence of range improvements, and averages about \$50 per AUM (see page 3-34 of the FEIS). This estimate is based on actual recent appraisals and determination of statistical confidence intervals is inappropriate.

- 6.12 Three livestock permittees with current active grazing operations within the proposed ACECs would be immediately adversely affected, with a total loss of 377 AUMs. With income per AUM estimated at \$4.50, annually, the total immediate loss in potential net ranch income is estimated at \$1,696.50, annually. This represents 0.09 percent of total agricultural earnings, and 0.003 percent of total Lincoln County industrial earnings in 1995. For clarification, this information has been added to this document. Also, please see the response to comment 20.13.
- 6.13 See response to comment 20.16. In addition, it is possible that another operation could combine this allotment into their operation making the allotment worth selling, rather than abandoning.

- 6.14 Construction costs for power transmission lines range from \$250,000 to \$1,500,000 per mile (page 4-27 of the FEIS). Section 7 consultation and mitigation costs that may be associated with the construction of power transmission lines through this area would add additional costs, but these costs are not expected to begin to approach the magnitude of costs for planning and analysis, and the additional mileage that might be involved, for alternate routes. Section 7 costs are discussed on page 3-35 of the FEIS.
- 6.15 Capital asset value of AUMs is discussed in response to comment 6.11 above. These are appraised values based on current income potential, market supply and demand. Any number of influences could affect their value. Conceivably, the reduced availability of AUMs could render them more valuable.
- 6.16 The statement referred to said that the desert tortoise population would decline under this alternative. However, because of confusion by the public, this section within the DEIS was removed in all the alternatives in this document. Monitoring will be used to evaluate recovery success and the effectiveness of meeting the five delisting criteria will vary throughout the Northeastern Mojave Recovery Unit (see Monitoring on page 2-8 of this document). The examination of how well the alternatives would meet the purpose and need will be deferred to the Record of Decision.
- 6.17 1. Precise population numbers are unknown, however, as identified in the document, monitoring information and analysis of desert tortoise information by experts have demonstrated concerns with tortoise population trends and recruitment of young into the population. Analysis of density studies and the conclusions of professionals show areas of dangerously low density within this planning area. The occurrence of stable populations does not necessarily indicate that there has not been an impact of livestock grazing over time on desert tortoise. The publications, reports, and discussions with experts are all cited in the document.
2. See response to comment 18.14.
3. The analysis of available information presented in this document correctly concludes that livestock grazing can have a number of negative impacts on desert tortoise and their habitat, (see pages 3-8 through 3-20 of the FEIS). The statement referred to concerning circumstantial evidence is from one study that concluded that "there is strong circumstantial evidence that grazing is a major problem".
- 6.18 You are correct. Impacts to livestock grazing were identified during scoping as an area of major importance/public concern. The cumulative impact to livestock grazing of tortoise recovery efforts throughout the Northeastern Recovery Unit and the estimated economic impact has been added to the analysis in the FEIS.
- 6.19 A considerable amount of credible scientific information is found to be available and has been analyzed in this document on the impacts of livestock grazing on desert tortoise and their habitat. This information includes several peer reviewed publications, other publications and reports, theses, professional opinions and judgements, and the Desert Tortoise Recovery Plan, Biological Opinions, EIS's and EA's. The overwhelming majority of this information leads to the conclusions made in this document that livestock grazing can negatively impact desert tortoise and their habitat (see Chapter 3, pages 3-8 through 3-20 of the FEIS). This document also describes impacts of other land uses on desert tortoise and has developed proposed actions relative to these activities designed to aid in the recovery of desert tortoise.

- 6.20 Please see the response to comment 6.12 for discussion of potential economic impacts within ACECs. Outside of ACECs, the potential loss of AUMs would be variable and dependent upon future vegetative conditions which cannot be hypothesized.
- 6.21 We agree that livestock reductions and or closures should not be proposed without resource or environmental reasons supporting such actions. The analysis of available information has resulted in the determination that livestock grazing can have negative impacts to desert tortoise and their habitat and, therefore, supports conclusions made in this Proposed Plan Amendment as well as the conclusion reached by the group of desert tortoise experts that developed the Recovery Plan and the associated recommendations for achieving recovery of tortoise.
- 7.1 In your letter you state "The MFP Amendment is being prepared to create a desert tortoise habitat conservation plan covering federal lands in Lincoln County, Nevada, situated below 4,000 feet in elevation." This statement is incorrect. Please refer to page 1-1 of this document for the purpose and need of this plan amendment. In addition the preparation of habitat conservation plans are for private lands, not federal lands.
- 7.2 The Bureau will not consider a sale of the legislatively leased lands of Harrich Investments, LLC, (formerly Aerojet). We will, however, entertain an exchange of legislative leased lands for portions of the legislatively conveyed lands when it can be shown that the exchange will enhance ACEC reserve design as well as improve critical desert tortoise habitat and aid in the recovery of the desert tortoise (see response to comment 1.3).
- 7.3 The proposed modification is beyond the scope of this planning effort. The area proposed to be added is outside of the planning area as defined on page 1-5 of this document, and it is also outside the jurisdiction of the Ely Field Office of the BLM. Proposed modifications to the Las Vegas BLM Resource Management Plan should be addressed to the Las Vegas Field Office.
- 7.4 Private lands located within the planning area for this land use plan amendment are not being included in this amendment. A HCP for Lincoln County is being developed to address these lands. However, it is being developed on a different time frame. To expand the planning area to include all undeveloped private lands within Lincoln County and incorporate the Lincoln County HCP would substantially delay this planning process.
- 7.5 It is the policy of the BLM, when transferring land title from the public domain to the private sector, to do so with the least amount of covenants and reservations as are required by law. It is also the Secretary of the Interior's legal responsibility to determine what, if any, encumbrances would be necessary to protect all of the public interests, and to include those deemed necessary. Your comment would have the Secretary abrogate his responsibilities. We are not able to do that. Ultimately, if and when the Aerojet leased lands are conveyed into the private sector, it will only be after exhaustive analysis of all aspects of the proposal. These analyses will determine what, if any, restrictions or encumbrances will be necessary to protect all of the public's interests. Regardless, nothing in the patent can be construed as relieving the patentee of any obligation it may have under federal, state and local laws with respect to obtaining permits prior to any development of the land.
- 8.1 In response to your comment, this has been corrected in this document.
- 8.2 Some mineral restrictions would apply, and some additional costs may be borne by mineral operations. This is not expected to result in noticeable adverse effects upon the Lincoln County economy. Please

see page 4-28 of this document for a discussion of economic effects from minerals management under the Proposed Action.

- 8.3 See response to comment 22.12. The mineral potential is low for leasable and locatable minerals within the Kane Springs ACEC. However, as pointed out, the salable minerals do have moderate to high potential and the activity for these types of mineral materials is increasing. The potential to develop these types of resources are likely but these resources exist extensively both within and outside the planning area. Market demands of any type of mineral material will dictate the price and the availability of the material. The demands of the market and the extensive resources open to development for mineral materials will allow operators to operate profitable operations outside the designated ACECs while protecting the desert tortoise.
- 8.4 The future development scenarios were developed based on past activities in Lincoln County and known or expected future trends. These scenarios were developed for analysis purposes to estimate the potential impact to other resources, such as the desert tortoise, from mineral activities. They are to be used only as assumptions for analysis. Minerals activity could be less than or more than these scenarios suggest in the future. If changes occur that effect the analysis, modifications to the land use plan could be made.
- 8.5 See responses to comments 3.1, 6.8, 6.21, and 18.14.
- 8.6 See response to comment 12.13.
- 8.7 See response to comment 6.3.
- 8.8 You are correct. As stated on page 4-113 of this document, "Some of the important contributors to the demise of the desert tortoise are impossible to halt, such as the continued urbanization in what was once prime tortoise habitat of the Las Vegas Valley. Addressing all of the controllable factors...will maximize the potential for recovery and delisting.
- 9.1 See response to comment 9.8.
- 9.2 See response to comment 9.5.
- 9.3 See response to comment 9.8.
- 9.4 As stated on page 1-1 of the FEIS under the title of Purpose and Need, "Management direction for this plan amendment was also developed within the context of BLM's mandate from the Federal Land Policy and Management Act (FLPMA) to manage public lands under the multiple use and sustained yield." Management for multiple use was a major factor in formulation of each of the alternatives since it was identified as part of the purpose and need. Even while attempting to accommodate traditional multiple uses of the public lands, priority was given to recovery and delisting of the desert tortoise. We have modified the sentence in this document to make it clearer that multiple use management considerations are indeed part of the purpose and need, and have added appropriate clarifying language to the Purpose and Need statement in the Summary.
- 9.5 The purpose and need is to assist in the recovery and delisting of the desert tortoise in the Northeastern Mojave Recovery Unit with multiple use management considerations for the public lands. This Proposed Plan Amendment only pertains to approximately 19% of the Northeastern Mojave Recovery

Unit. The Delisting Criteria were identified in the Recovery Plan as the standards that would be used to determine whether or not the desert tortoise had recovered on a Total Recovery Unit basis. Monitoring will be used to evaluate recovery success and the effectiveness of meeting the five delisting criteria will vary throughout the Northeastern Mojave Recovery Unit (see Monitoring on page 2-8 of this document).

- 9.6 The critical habitat in and around the Beaver Dam Slope ACEC is low density tortoise habitat and was primarily designated as critical habitat to establish a genetic corridor between the Beaver Dam Slope in Utah and the Mormon Mesa in Nevada. Based on this and the fact that physical barriers (ie. fences) existed, there would be less impacts to grazing and the viability of the corridor would not be sacrificed by making the ACEC boundary conform to the fences. The Sand Hollow and Beacon Allotments will be closed to livestock grazing, which provides for total protection of the genetic corridor. The Terry Allotment has the most acreage between the two allotments and is grazed on a rotational basis as part of the Scarecrow Peak Allotment in Utah. This allows for rest periods during the tortoise active season.
- 9.7 See response to Comment 9.8.
- 9.8 As stated in this and other EPA comments (9.1, 9.3 and 9.7) it is clear that the "maximum protection" alternative being proposed is one which would place 100% of the critical habitat designated by the USFWS into one or more ACECs or DWMA's, with "full protection" to include strict prescriptions on cattle grazing, mining and OHV use. See Alternative Three under the section on Alternatives Considered but Eliminated from Detailed Analysis.

An important purpose of alternatives is to address unresolved conflicts. Field coordination meetings for the purpose of designating boundaries of potential special management areas were held between the BLM and the USFWS in order to resolve conflicts regarding boundary delineation and reasonable administration of the areas. A 100% designated critical habitat alternative was, therefore, not needed to address unresolved conflicts. Since these coordination meetings were held with the USFWS (who originally designated the critical habitat) the BLM decision not to evaluate a 100% critical habitat alternative was neither arbitrary nor capricious.

According to the CEQ 40 Questions (1b), "What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case." A "rule of reason" must be applied in evaluating whether the agency has adequately considered a range of alternatives. (NRDC v. Morton, 1972)

According to the CEQ 40 Questions (1a), all alternatives must be "reasonable". CEQ 40 Questions, (29b) clearly states that if the alternative proposed by a commentor is not reasonable that it need not be considered for analysis. The question of reasonableness of the proposed alternative is discussed below.

The Federal Register designating critical habitat states, "The Service may revise critical habitat if land management plans, recovery plans or other conservation strategies are developed and fully implemented, reducing the need for the additional protection provided by critical habitat designation."

At a coordination meeting with the USFWS in the spring of 1997 in Las Vegas, Nevada, the USFWS affirmed their intention to revise critical habitat boundaries to coincide with the designated special management areas. That being the case, it was made part of the Planning Criteria (page 1-10 of the FEIS) which states, "The USFWS will revise critical habitat designations in the planning area to be

consistent with the designated special management areas for tortoise." It would, therefore be unreasonable to analyze in detail an alternative which is contrary to administrative boundaries which have been coordinated with the USFWS.

In all of our coordination meetings with the USFWS, and their formal reviews of internal working documents and the Preliminary Draft EIS and the Draft EIS, not once did they ever indicate any desire to have an alternative analyzed which included 100% of the designated critical habitat, because they knew that to do so would be unreasonable.

A further consideration is the timing of the designation of critical habitat within the process. The critical habitat was designated in February of 1994. The Recovery Plan for the desert tortoise is dated June 1994. It is relevant to note that the Recovery Plan for the desert tortoise proposed that only 52% of the designated critical habitat be included within Special Management Areas for tortoise. Since the desert tortoise recovery team proposed that 52% of the designated critical habitat be included within a special management area, it would clearly be unreasonable to analyze an alternative which included 100% of the designated critical habitat.

The purpose and need was to assist in the recovery and delisting of the desert tortoise within a multiple use land management context. To analyze such a "maximum protection" alternative would be unreasonable since it would not meet the purpose and need of accommodating multiple use with emphasis on assisting in the recovery and delisting of the desert tortoise. By the same reasoning, we did not analyze in detail a proposed "full production" alternative (see response to comment 20.38).

- 10.1 It is the intent of the Bureau to pursue acquisition of these parcels if they become available. Please also see response to comment 1.3.
- 10.2 See response to comment 6.3.
- 10.3 The Proposed Action allows only non-speed OHV events to pass through ACECs on designated roads, and has been modified to include seasonal limitations to avoid the tortoise's most active periods. In tortoise habitat outside of ACECs, OHV use is limited to existing roads and trails where there is no vegetation to be destroyed (refer to the Recreation Management section of the Proposed Action, page 2-25 of this document). Past monitoring data from the Las Vegas Field Office does not support the contention that off-highway vehicle events represent a significant source of direct tortoise mortality. Low levels of casual OHV use within the planning area make it unlikely that this use, when limited to existing roads and trails, will have any appreciable effect on vegetation or direct tortoise mortalities.
- 10.4 See response to comment 3.1.
- 11.1 The alignment of the Mesquite-Caliente road, as you propose it, would go through portions of the Beaver Dam Slope ACEC and are proposed to be avoidance areas for right-of-way actions. Avoidance areas are defined in the BLM manual as areas where future rights-of-way may be granted when no feasible alternative route is available. The intent of the avoidance designation is to discourage surface disturbance, proliferation of roads and excess traffic so as to reduce desert tortoise mortality, habitat destruction and habitat fragmentation.

Rights-of-way that are existing are not affected by this designation. Future right-of-way applications that require new construction may be granted within an avoidance area, but only after going through the NEPA process and section 7 consultation with the USFWS. All future right-of-way applications

will be processed in accordance with laws, regulations, and standard BLM business practices. As part of the BLM's standard business practice we encourage right-of-way applicants to participate in a pre-application meeting to address sensitive issues and alignment alternatives. At such time as Mesquite Properties is ready to schedule a pre-application meeting and submit a right-of-way application for the Mesquite-Caliente road, the BLM will make every effort to process it.

- 12.1 Protests to the Land Use Plan Amendment need to be submitted to the Director of the BLM within 30 days of the published Notice of Availability of the Proposed Plan Amendment and FEIS. Since your organization is on the mailing list for the FEIS you were sent a copy of this which will include a cover letter detailing when and where protests to the Land Use Plan Amendment would need to be filed.
- 12.2 The section on desert tortoise nutritional requirements on pages 3-9 and 3-10 of the FEIS summarizes information on tortoise diets and diet overlap with livestock and important nutritional strategies of desert tortoise. This information indicates the importance of native perennial herbaceous forage species to desert tortoise nutrition. Many of these species are absent or occur in reduced amounts in the Mojave desert as a result of historic livestock grazing, see pages 3-18 through 3-20 of the FEIS for discussions and citations. These pages also discuss and cite findings of improved habitat conditions relative to increased abundance or occurrence of native perennial forage species with reductions or removal of livestock grazing.
- 12.3 See response to comment 18.14.
- 12.4 Recent research has indicated that forage quality is more important than forage quantity. While 288 pounds of forage per acre may be adequate to feed a given tortoise population, the quality of the forage may not be of sufficient nutritional value to maintain the tortoise. Please refer to pages 3-9 and 3-10 of the FEIS for additional information.
- 12.5 It was not our intent to suggest or portray polarization. The Social Setting, Attitude and Values Section attempts to provide an objective appraisal of community attitudes based on previous surveys and recent informal discussions. The Bureau is anxious to accommodate the desires and aspirations of the community, and in order to do so, some understanding of the communities needs and perceptions is necessary. Certainly all parties wish to achieve cooperation and maintain harmony. However, the Bureau is compelled by law to comply fully with the Endangered Species Act of 1973, as amended, as it relates to tortoise population and habitat management on the public lands. Every effort has been expended to meet the Bureau's responsibility attendant to the listing of the Desert Tortoise, while minimizing, in every way possible, the adverse effects that may have to be suffered by the community.
- 12.6 See response to comment 17.2.
- 12.7 As stated in the first paragraph of Chapter 1 of the FEIS, it is BLM's responsibility under the Endangered Species Act to assist in the recovery and delisting of endangered species on the lands it manages. The same paragraph goes on to state that this plan was developed within the context of BLM's multiple use mandate. The intended outcome was one that assisted in the recovery of the desert tortoise populations while minimizing impacts on the traditional multiple uses that have occurred on the effected public lands. There are numerous differences between the recommendations of the Recovery

Plan and the management actions proposed under this Proposed Plan Amendment. For a summary of the differences between the Recovery Plan and the Proposed Plan Amendment, refer to the differences between the Proposed Action and Alternative B contained in the Summary of Alternatives tables in the front of this document, pages S-1 through S-10 of the FEIS.

- 12.8 Osteoporosis and shell abnormalities (lesions) have been observed on all study plots in Nevada, including those in Lincoln County. In addition upper respiratory tract disease has been observed in tortoise in the Coyote Springs Area. It is known that both the quality and quantity of forage available are important to tortoise nutrition and that malnutrition can result from lack in quantity or quality of forage. Malnutrition can compromise the immune system and increase susceptibility to disease. Negative affects that livestock grazing can have on the quantity and quality of important tortoise forage are documented. Areas where livestock use has been reduced and/or eliminated have shown recovery and increases in the amount of native perennial forage available to tortoise. See pages 3-13 through 3-18 of the FEIS for discussions and citations on desert tortoise diseases.
- 12.9 The recommendations on wilderness suitability were not included in the earlier MFP, but are included in the Nevada BLM Statewide Wilderness Report, which was submitted to the President and forwarded to Congress in 1991. A copy is available upon request. The reason the BLM's suitability recommendations are not included within this Proposed Plan Amendment is that all WSAs are managed the same, whether recommended suitable for wilderness designation, or not. And since Congress is free to do as they choose with BLM's recommendations, actual wilderness designations may not even resemble current recommendations. Therefore, the maps would serve no useful purpose in this planning effort.
- 12.10 See responses to comments 22.12 and 13.4.
- 12.11 No noticeable adverse economic effects are projected for Lincoln County. Please see pages 4-25 through 4-29 of the FEIS, and the response to comment 6.12 above, for a discussion of potential economic effects. With regard to the availability of land for private development in Lincoln County, it is one of BLM-Nevada's highest statewide priorities to cooperate with Lincoln County in providing for a larger private land base for development within the County. Every effort will be made to accommodate reasonable proposals that are consistent with other mandates relative to the multiple resources on the public lands.
- 12.12 Currently the extent to which monitoring of desert tortoise habitat is taking place in the planning unit is in association with specific actions. For example, OHV events are being monitored as to impacts on tortoise and their habitat and rangeland monitoring of vegetation utilization continues on an allotment by allotment basis. Examples of decline can be found on pages 3-7 through 3-20 of this document. Population monitoring data collected as of the date of this plan amendment are displayed in tables 3-3 and 3-4 (page 3-14 of the FEIS). Monitoring data are presently not being collected for desert tortoise populations but will be implemented upon the final approval of methodologies for the collection of this data. See response 3.1 and page 2-8 of this document for further information relative to monitoring.

The current status of desert tortoise and condition of tortoise habitat are to some degree the result of over 100 years of grazing in this desert environment. This is further complicated by the increased human demands being put on the desert. Site specific quantitative information as to the extent current levels of grazing use are specifically contributing to the current status of tortoise and its habitat are

unknown. It is determined, however, that livestock grazing has detrimental impacts to tortoise and its habitat and that continued livestock grazing is not considered consistent with meeting recovery objectives.

- 12.13 Recovery of threatened species is a high priority for the Department of the Interior and it is a logical assumption that adequate funding will be available.
- 12.14 Since the assumption was made that adequate funding would be available, no cost estimates were made in the EIS. Cost estimates for an initial five year period are defined in the Implementation Plan for the Recovery Plan. The cost estimate for implementation of the Recovery Plan over all five Recovery Units is a minimum of \$16,702,000. The implementation costs within the Northeastern Mojave Recovery Unit would be approximately 20% of the total, or a minimum of \$3,340,500. It should be noted that the Clark County HCP will generate \$400,000 per year for implementation of Recovery Plan objectives, accounting for perhaps \$ 2,000,000 of implementation cost over that five year period. Estimates from a consultant working for Lincoln County for monies to be generated per year through implementation of a Lincoln County HCP are \$245,000.
- 12.15 Total costs estimated for implementation of the Recovery Plan are estimated at \$16,702,000. Please see response to comment 18.14 for further information.
- 13.1 Under current management (the No Action Alternative), all of the planning area is open to mineral entry except 2,880 acres in the Mormon Peak Caves which is closed to fluid minerals.
- 13.2 See responses to comments 13.4 and 22.12.
- 13.3 Comment noted. These references have been used for the development of the mineral potentials for this document. They are in the references section of this document. Thank you, for the new reference to the Joseph V. Tingle report.
- 13.4 Mining claim information has been provided on page 3-29 under locatable minerals. The mineral resource data you have referenced was used in the preparation of this document. The Bureau's policy states, in part, that, "Land use plans will reflect geological, energy and mineral values on public lands through more effective geology and energy and mineral resource data assessment." It is also Bureau policy to keep public lands open to mineral exploration and development, unless closure or restriction is mandated by Congress or justified in the national interest.

The desert tortoise has been listed as a threatened species under the Threatened and Endangered Species Act passed. The Act states that it is in the national interest to protect species from extinction. Mineral resources have been reviewed and studied as outlined by BLM policy and accepted industry mineral investigations procedures.

Mitigation measures and other types of stipulations can be used to reduce the impacts to other resources from the impacts of mining. Mitigation measures are developed up front during the review of a plan of operation, during the analysis process of an environmental document for a plan of operation and through the informal and formal consultation process with the U.S. Fish and Wildlife Service on Threatened and Endangered species. Mitigation measures will reduce or offset the impact of mining to a resource but it will not eliminate it. It becomes a decision of the land management agency as to what level of impacts can be supported both environmentally and legally.

It has been determined that protection of the desert tortoise and habitat for recovery of the species cannot be accomplished through just mitigation measures in the Kane Springs ACEC. This is because the habitat in the Kane Springs ACEC is of higher quality and the population densities are higher than in the other ACECs. Due to these two aspects of the Kane Springs ACEC it would be very difficult to design a plan of operation that would sufficiently mitigate the impacts to the tortoise and its habitat and still provide for recovery of the desert tortoise. The closure would reduce the potential for further habitat fragmentation in the Northeastern Mojave Recovery Unit who's reserve design is already compromised because of the large edge effect (ratio of edge to interior area).

- 13.5 The BLM recognizes access road rights-of-way created under the provisions of R.S. 2477 as a valid existing right.
- 13.6 Comment noted. This plan is in conformance with all mineral and other resource laws, see page 1-9 under Relationship to Statutes and Regulations.
- 14.1 The current ACEC designations would represent a "barrier" only to high speed competitive events. However, non-speed portions of speed events would be allowed to pass through ACECs along five corridors within the planning unit (refer to the Recreation Management section of the Proposed Action, page 2-25 of the FEIS). Dependent on the results of future monitoring studies on the indirect impacts of speed-based OHV events, speed events may be allowed along certain graded maintained corridors during the tortoise inactive season.
- 14.2 The Beaver Dam Slope (Arizona) and Mormon Mesa (Nevada) areas contain the same desert tortoise population as indicated in the Recovery Plan and Lamb, et. al. (1988) not two separate populations. Although there are portions of Toquop Wash where a tortoise could not cross there are other locations within the wash where a tortoise can cross, indicating that Toquop Wash is not a barrier between the two areas. The Recovery Plan recommended ACECs of at least 1,000 square miles in size. However, if this large of an ACEC is not possible smaller ones with functional, suitable habitat connecting the ACECs may be created. This is the case in the Northeastern Mojave Recovery Unit. If Toquop Wash was excluded from an ACEC this important connectivity between the ACECs would not occur.
- 14.3 See response to comment 14.2.
- 14.4 Monitoring plans are proposed to be developed for both the Las Vegas and Ely planning areas which should provide better information on the impacts of organized OHV use on tortoise and its habitat.
- 14.5 See response to comment 14.2.
- 15.1 See response to comment 14.2 regarding the suitability of Toquop Wash for speed-based OHV events. Graded, maintained roads such as Carp-Elgin Road, Halfway Wash Road, East Halfway Wash Road, Littlefield Road, and Kane Springs Road may represent potential future corridors for speed-based events. In the meantime, it is our responsibility under the Endangered Species Act to err in favor of the tortoise in proposing a recovery strategy. The results of future monitoring studies to determine the indirect impacts of speed-based events on tortoise and its habitat will be used to determine the feasibility of conducting these types of events along these corridors. If studies show negligible effects, and future consultations with USFWS allow, this plan would allow these types of events to occur only during the tortoise inactive season so as to prevent the possibility of any direct impacts to the tortoise. ACECs would continue to be closed to speed-based events during the summer months. Even though tortoise are less active at those times than during the spring and fall, the fact that they are above

- ground makes them susceptible to being directly impacted, especially when they become more active in cool parts of the day or in response to unpredictable and unseasonable weather. See response to comment 14.1 regarding the "barrier."
- 15.2 In response to this comment, and others like it, consideration of the use of tortoise-proof fencing has been expanded to include any of the regularly maintained roads within the planning unit (see page 2-15 of this document, Management Direction for ACECs).
- 15.3 In your letter you indicate that the Bureau should recognize that Toquop Wash is not critical tortoise habitat. The area of Toquop Wash that you are referring to was designated as critical habitat for the desert tortoise by the U.S. Fish and Wildlife Service on February 8, 1994 in the Federal Register (59 FR 5820).
- 15.4 The purpose of creating corridors through the ACECs is to allow OHV events to continue while discouraging events from taking place entirely within ACECs. We have tried to strike a balance which allows multiple uses to continue as much as possible without compromising the primary goal of protecting the tortoise and their habitat. Minimizing the total travel time within the ACECs should minimize both direct and indirect impacts to tortoise and its habitat.
- 15.5 See response to comment 5.9.
- 15.6 See responses to comments 22.12 and 13.4.
- 15.7 According to the two permanent study plots located within the planning area, adult tortoise populations at this time appear to be relatively stable. However, researchers warn that while populations in the Northeastern Mojave Recovery Unit do not appear to be undergoing major changes in numbers or densities in most places, population levels are dangerously low. Please refer to page 3-11 to 3-13 of this document for additional information.
- 15.8 As stated on page iv of the FEIS, the Agency preferred alternative is the Proposed Action as described, with all appropriate mitigation.
- 15.9 With regard to the management direction referred to, it should be noted that this is part of Alternative A and not the Proposed Action. As a result of discussions with the author, the study found no differences between plots because of the brief time of the study and the drought conditions that resulted in no grazing occurring both within the enclosure and in the grazed area outside the enclosure. The authors identify these problems with this study as rendering the data on differences of the plots with regard to grazing as inconclusive.
- 15.10 Use Adjustment Criteria is a broad guideline used in land use plans and specific management actions will be addressed during the allotment evaluation process. We would encourage you to provide input at that time.
- 15.11 Once again you reference an alternative other than the Proposed Action (Alternative A). BLM already has the responsibility under 43 CFR 8342.3 to monitor the effects of off-road vehicle use and amend designations as necessary to protect resources or eliminate conflicts with other uses. BLM also has authority (43 CFR 8341.2) to make emergency closures for the protection of resources.

- 15.12 The Recreation Management portion of this alternative was presented to permit consideration of speed-based OHV events through ACECs in a way that would have the greatest potential for satisfying the purpose and need, which is in short, protection of the tortoise in a multiple-use context. Since no tortoises would be active, none would be impacted directly, and travel on designated roads would all but eliminate the potential for habitat degradation. Though not the proposed action, this was considered a viable alternative. Increasing the "open season" for speed-based OHV events to months when the tortoise is above ground (June 15 - August 15) increases the possibility of direct tortoise impacts and makes the alternative less palatable in terms of protection of the tortoise. (Refer also to responses to comments 14.4 and 15.1)
- 15.13 We are not aware of any empirical data which supports the contention that non-speed OHV events along designated, maintained roads adversely effect the tortoise or its habitat, nor does it seem reasonable that they would. OHV use within Lincoln County is significantly less than that which occurs in either of the adjacent administrative planning areas, making the need for similar restrictions unreasonable (see page 3-27 of the FEIS for a description of existing recreational use levels). Events that cross the administrative boundaries to, or from, Clark County and/or Arizona will be subject to the restrictions prescribed in those plans (See Table 2-3, pages 2-27 and 2-28 of the FEIS). Monitoring studies proposed to be conducted within Clark and Lincoln Counties over the next few years are intended to provide further information on the impacts of these types of events. In the unlikely event that these studies reveal unacceptable impacts from these types of events, an emergency closure could be enacted if necessary, and this plan would be revised to provide an appropriate level of protection for the tortoise.
- 15.14 Comment noted. All mineral activities within ACECs will require extensive review and approval before operations begin, see pages 2-30 and 2-41 of this document.
- 15.15 You are correct. Lincoln County has not been subject to many of the OHV-related problems which occur in surrounding planning areas. However, the paragraph you refer to is a description of the Cumulative Impacts, which are not specific to Lincoln County. The Recreation Management portion of Chapter 3 describes the use levels that occur in Lincoln County (see page 3-27 of the FEIS). A line has been added to that paragraph to emphasize the point you raise.
- 15.16 See response to comment 6.3.
- 15.17 While you are correct that the majority of OHV enthusiasts are responsible users of the public lands, examination of the context of the quote in question from the Recovery Plan shows that the Recovery Team was actually referring to all types of OHV use, not just the "irresponsible land abusers". The context of the quote to which you object is as follows: "ORV use takes many forms: organized events such as the Fast Camel Cruise in the southeastern Colorado Desert, California; large or small scale competitive races involving up to thousands of motorcycles (e.g., the Barstow to Las Vegas motorcycle competition); and casual family activities. ORV activities are among the most destructive, widespread, and best documented of threats to the survival of desert tortoises and other vertebrates, and to the integrity of their habitats."

There is considerable information on the impacts of unrestricted casual OHV use, especially near urban areas. This EIS points out that the only available empirical data on organized speed based OHV events under current management showed minuscule direct impacts to tortoise from OHV use (see page 4-12 for a description of projected impacts from organized OHV events). At an August 10, 1998 meeting with the USFWS in Mesquite, Nevada, however, the Service said that the scientific community has

provided no conclusive information on the indirect effects from dust, vibration and noise to desert tortoise from organized OHV use. Participation in a monitoring program is part of the Proposed Action in this Amendment to determine if restrictions to OHV use can be lessened in the future.

- 16.1 During the public meeting, the public may have agreed that Pahrangat Valley was not tortoise habitat, however the Bureau did not, and would not have agreed with this statement. The portion of Pahrangat Valley north of Manard Lake is desert tortoise habitat. There have been eleven tortoise density transects conducted north of Manard Lake. Nine out of the eleven transects indicated the presence of desert tortoise. The area where transects verified the presence of tortoise is considered desert tortoise habitat. The area where transects did not indicate the presence of desert tortoise is not considered desert tortoise habitat. Bureau personnel have also observed desert tortoise east of Highway 93, and tortoise sign west of Highway 93, north of Manard Lake. The habitat in Pahrangat Valley is not the highest quality in the planning unit which is why it was not included in an ACEC. A map of the tortoise density transects in Pahrangat Valley is available for viewing at the Caliente Field Station Office.
- 16.2 There are five soil surveys that cover the public lands administered by the BLM in Southern Lincoln County. These maps are available at the Natural Resources Conservation Service (NRCS). Also refer to response to comment 20.29.
- Advance copies of unpublished surveys are available at local NRCS field offices in Las Vegas, Nevada, Caliente, Nevada, and in Reno at the NRCS State office. Published surveys are also available at many public and university libraries.
- 16.3 Please refer to Page 3-17 of this document for an analysis of Bostick's hypothesis.
- 16.4 See responses to comments 3.1 and 6.17.
- 16.5 Due to the existing opinion that tortoise recovery and livestock grazing are incompatible, utilizing grazing to manage fine fuels will not be considered further at this time. With the lack of livestock and wild horse use in the planning area, increased perennial regeneration should occur and thus result in reduced fire size.
- 16.6 See responses to comments 18.14 and 17.8.
- 17.1 Please see the response to comment 18.14. BLM's cost for implementation of the actions of this MFP Amendment within southern Lincoln County will be absorbed as part of normal operating costs, and within standard budget processes. See also, Assumptions for Analysis, on page 4-1 of this document.
- 17.2 Traditional multiple uses of the public lands are proposed to be restricted, but not eliminated, in ACECs in deference to desert tortoise recovery. In the Proposed Action, which is the Agency Preferred Alternative, types of multiple use in ACECs anticipated to be compatible with recovery and delisting of the desert tortoise include mining (done under plans of operation), designated utility and transportation corridors, material site ROWs along designated Federal and County roads, OHV use as limited to designated roads and trails, OHV corridors for use during events, traditional recreation uses such as hunting, trapping and hiking, oil and gas exploration and development with seasonal restriction of surface use, and full fire suppression with minimum impact techniques.

As stated on page 1-1 of the FEIS under the title of Purpose and Need, "Management direction for this plan amendment was also developed within the context of BLM's mandate from the Federal Land Policy and Management Act (FLPMA) to manage public lands under multiple use and sustained yield." Management for multiple use was a major factor in formulation of each of the alternatives since it was identified as part of the purpose and need. Priority must be given to recovery and delisting of the threatened desert tortoise while attempting to accommodate traditional multiple uses of the public lands.

- 17.3 The BLM is proposing no further management of wild horses and burros within those portions of HMAs that are overlapped by the proposed ACECs. Seasonal utilization limits (per Biological Opinion) are being proposed for wild horses found within HMAs containing desert tortoise habitat but outside of the proposed ACECs (for further explanation see response to comment 5.3).
- 17.4 The range of the desert tortoise includes the Mojave and Sonoran deserts in southern California, southern Nevada, Arizona, the southwestern tip of Utah, and Sonora and northern Sinaloa, Mexico. The Mojave population (animals living north and west of the Colorado River) of the desert tortoise was listed as threatened on April 2, 1990. There are six recovery units within the Mojave region for the desert tortoise as outlined in the Recovery Plan. The Northeastern Mojave Recovery Unit is one of these six. The desert tortoise is listed as threatened in this and the remaining five recovery units. The Sonoran population (animals living south and east of the Colorado River) of the desert tortoise is not listed as threatened or endangered under the Endangered Species Act.
- 17.5 The USFWS declared the desert tortoise as threatened. The BLM has an obligation to help recover and delist the species. While the Recovery Plan is only a guide, it was the best direction available by the scientists on the Recovery Team as of 1994. In addition to helping recover and delist the tortoise the BLM also has an obligation to manage the public lands in a multiple use context. This Proposed Amendment is valid in that it uses the Recovery Plan as a guide and implements its recommendations in a multiple use context.
- 17.6 See page 1-1 of the FEIS for a complete description of the purpose and need. Tortoise recovery cannot be accomplished under current management because none of the delisting criteria can be met as outlined in the Recovery Plan.
- 17.7 The word "significant" in the first delisting criterion refers to the growth rate (λ) of a given population that equals or exceeds 1.0. λ represents the rate of increase or decrease of a population based on adult mortality and recruitment of individuals into the adult class of a population. A λ of 1.0 indicates a stable population, or the rate of adult mortality equals the number of individuals recruited into the adult age class. If λ exceeds 1.0, then recruitment exceeds adult mortality, if λ is less than 1.0, adult mortality exceeds recruitment.
- 17.8 While the tortoise populations appear to be stable on the two study plots within the planning area the tortoise cannot be immediately delisted because the Recovery Plan calls for the population within a recovery unit to exhibit a statistically significant upward trend or remain stationary for at least 25 years. Please see pages 3-11 to 3-13 of this document for existing information and a discussion on trend in desert tortoise populations. In addition to the population delisting criteria the Recovery Plan also outlined four other delisting criteria, which must be met before the tortoise can be delisted within a particular recovery unit (see page 1-3 of this document, et.al).
- 17.9 Specific management actions are not prescribed at the time of critical habitat designation. However, the USFWS is required to complete a Recovery Plan for any species listed under the ESA. The

Recovery Plan specified a number of management actions determined to be inconsistent with recovery of the desert tortoise. This Plan Amendment/EIS attempts to sort out the management actions that appear to be appropriate for this planning area which meet the purpose and need defined on page 1-1 of this document.

- 17.10 Management actions will not affect base property directly, but indirect affects are analyzed in Chapter 4, see page 4-25 of this document.
- 17.11 Valid land management decisions are often made with less than 100% complete information. And, some element of speculation is "implicit in NEPA" (Alaska v. Andrus, 1978). If the courts were to impose a requirement that an impact statement can never be prepared until all relevant environmental effects were known, it is doubtful that any project could ever be initiated. (Jicarilla Apache Tribe v. Morton, 1973)

In the case of livestock grazing impacts to the tortoise, for example, while the information is less than 100% complete, "The preponderance of scientific evidence indicates that livestock grazing can have a number of different negative impacts to tortoise and its habitat." (see pages 4-3 and 4-4 of this document and see response to comment 18.14) There are differences of opinion on this subject as explained in the Draft EIS. An agency, however, must have discretion to rely on the opinions of its qualified experts even if a court may find contrary views more persuasive. (Marsh v. ONRC, 1989; and Sierra Club v. United States Department of Transportation, 1985)

It is our obligation to disclose to the public in an EIS whenever there is incomplete and/or unavailable information. As stated on page 4-2 of this document, "...agencies evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement must identify incomplete or unavailable information..."

Also, as directed by the courts, the BLM has the responsibility of considering the cost of any delay to acquire more information. Where the responsible decisionmaker has decided that the costs of proceeding without more and better information is outweighed by the benefits of proceeding without further delay, the courts may not substitute their judgement for that of the decisionmaker and insist that the project be delayed while more information is sought. (Alaska v. Andrus, 1978) As stated on page 4-114 of the FEIS, "There is professional disagreement regarding whether or not livestock can be allowed to graze and still provide for recovery of the desert tortoise. The cost of waiting to proceed until the agencies have more definitive information on this subject has been considered. Delaying implementation of the goals and objectives of the Recovery Plan until definitive studies of the interaction between livestock and desert tortoise have been completed, could be detrimental to the tortoise species within the Northeastern Mojave Recovery Unit."

- 17.12 See response to comment 17.2.
- 17.13 See response to comments 6.6, 6.10, and 6.19 for information on the Proposed Action for livestock grazing in relation to this public comment.
- 17.14 See response to comment 6.3.
- 17.15 See response to comment 18.14.
- 17.16 See response to comment 17.8.

- 18.1 See response to comment 18.14.
- 18.2 In Administrative Law Judge Ramon M Child's Decision of 1995, in Edwin O. Larson, ET AL v. BLM, numbered NV-050-92-02, ET AL, under conclusion of law he stated on page 26 at number 6. "The Biological Evaluation prepared by BLM and presented to FWS to commence the consultation resulting in the issuance of the Biological Opinion on which the decisions subject of these appeals were based was and is a flawed document."

Judge Child's Order stated, "Appellant's motion to reverse the decisions, subject of these appeals is DENIED."

Subsequent to this decision both the Bureau of Land Management and the appellants have appealed Judge Child's decision to the Interior Board of Land Appeals (IBLA). On January 22, 1996, IBLA received and docketed the appeal under the number IBLA 96-129. As a result of this appeal Judge Child's decision is not the final position of the Department of the Interior on this issue.

In March of 1996 the Desert Livestock Producers (which include many of the same appellants in the IBLA 96-129) filed suit in the United States District Court for the District of Utah Central Division. This case is Desert Livestock Producers v Bruce Babbitt, Civil No., 2:96CV 0210J. The Interior Board of Land Appeals has deferred any action on the IBLA 96-129, pending resolution of the District Court Case.

Both the administrative appeals and the civil suits cited above deal with preparation of biological evaluations, subsequent biological opinions issued by the United States Fish and Wildlife Service, and the subsequent Bureau of Land Management Livestock Grazing Decisions that implemented the terms of the Biological Opinions.

Additionally, in those specific cases the purpose of the consultation with the USFWS was to authorize a federal action (livestock grazing on public lands) in a manner that would not jeopardize the continued existence of the tortoise and/or prevent any adverse modification or destruction of its critical habitat.

The purpose of this LUP amendment is to implement actions deemed necessary to meet the recovery objectives laid out in the Recovery Plan.

- 18.3 See response to comment 18.14.
- 18.4 We agree with your comment and have eliminated the sentence to which you refer.
- 18.5 We appreciate your suggestion and we have revised the sentence to which you refer to, on page 3-34 of this document to read: "Generally ranchers resent what they perceive to be excessive government regulation trends of the last 20 years, which they see as restrictive."
- 18.6 No conflict exists. The current grazing fee \$1.35 per AUM. Ranch income is estimated at \$4.50 per AUM. Of course ranch operators bear certain costs to operate on public lands. However, if the economic benefit derived from use of the public range did not exceed the costs, there would hardly be any point to utilizing public rangeland grazing (see Vale, 1979; Neilson and Workman, 1971; and Corbett, 1978). Also, there was an error in the DEIS; ranch income was estimated at \$4.50 per AUM, not \$4.80 as noted. This error has been corrected.

- 18.7 See response to comment 18.14.
- 18.8 As stated on page 1-1 of the FEIS; "To be in compliance with the National Environmental Policy Act, however, this environmental impact statement shall serve as a means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made (CEQ 1502.2 (g))." The Recovery Plan provided important guidance for land management agencies. The Recovery Plan was based on the best available scientific information. Application of the Recovery Plan recommendations to the BLM multiple use management context resulted in an array of alternatives for analysis.
- 18.9 The Beacon Allotment (dual use by cattle and sheep) is the only sheep allotment in the planning area and has not been used by sheep since 1988. However, it has been used by cattle on a yearly basis (see page 4-26 of the FEIS for more details).
- 18.10 Data on density of tortoise that has been collected in Lincoln County is portrayed in this document in Tables 3-3 and 3-4. It concludes that adult tortoise populations are stable but occur in dangerously low levels within the planning area. The desert tortoise is a long lived creature and thus changes in population dynamics often occur over long periods of time. Impacts of grazing on desert tortoise habitat with respect to forage availability and native diversity of perennial forage species have occurred as a result of grazing over the past 130 or so years. The historical grazing impacts to the diversity and composition of native vegetation communities are, to some extent, also responsible for reductions in livestock numbers grazing today.
- 18.11 See response to comment 6.3.
- 18.12 See response to comment 5.3.
- 18.13 The location of the utility corridors identified in this Proposed Plan Amendment are a result of efforts to minimize surface disturbance and restrict the random distribution and proliferation of utility lines and pipelines in the ACECs.

The Western Regional Corridor Study of 1986, identified a corridor coming into the Caliente/Panaca/Pioche area from Enterprise Utah, west to Lincoln County. This route is considered by the utility and pipeline industries as the shortest and most cost effective route into Northern Lincoln County. That route is outside the planning area addressed in this amendment.

- 18.14 Pages 3-8 through 3-20 of the FEIS discuss and cite the information on desert tortoise used in this document. This document has acknowledged that differing opinions do occur with regard to the availability of information and the affects of livestock grazing on desert tortoise and its habitat. The document examines the available information including opinions and conclusions of agency and non-agency experts, peer-reviewed and non peer-reviewed literature, reports and other findings. There is more than adequate credible scientific information to provide the basis for analysis and the development of the proposed action, and to conclude that livestock grazing can have a number of negative impacts on desert tortoise and tortoise habitat.

Peer reviewed documents are considered those papers that are submitted to a journal or other refereed publication and are then sent to other professionals with knowledge of the subject matter for their

thorough review. These reviewers are usually selected by the editor and are usually not known to the author. The last paragraph identified in this comment is answered in 18.10 above. Refer to pages 4-3 and 4-4 of this document for discussion of Effects of Livestock Grazing.

- 18.15 This plan amendment will cost approximately \$350,000.00. Each year the management team addresses the projected workload and assigns priority based on funding and deadlines. The plan amendment has received high priority due to requirements under the Endangered Species Act. This planning effort has taken personnel and funding away from other activities. Also see response to comment 12.14.
- 19.1 See response to comment 9.6.
- 19.2 Absolutely. As stated on page 4-97 of the FEIS "...the Desert Tortoise Recovery Team frankly admits that it would not be possible for two out of the five proposed DWMAs in the Northeastern Mojave Recovery Unit to meet the preferred reserve design." When the Caliente ACECs are matched up against the Las Vegas Field Office, Utah, and Arizona ACECs and the Desert National Wildlife Refuge as they are shown on Map 4-1 of the FEIS you can see that the reserve design of the combination of sanctuaries is acceptable. In addition, while the Recovery Plan suggests 1,000 square miles of tortoise management areas per Recovery Unit, there is a total of 1,780 square miles of tortoise management areas proposed for the Northeastern Mojave Recovery Unit. This will help to compensate for any deficiencies in reserve design.
- 19.3 The Bureau agrees that development of the private land could contribute to fragmentation of the desert tortoise habitat and the effectiveness of the Kane Springs ACEC. However, the BLM has no control over the development of private lands. To address this, this document states that BLM would acquire these lands if they become available and would consider an exchange of the Harrich Investments, LLC leased lands for Harrich Investments, LLC (formerly Aerojet) patented lands when it can be shown that the exchange will enhance ACEC reserve design as well as improve critical desert tortoise habitat. Any acquired lands would become part of the Kane Springs ACEC. See response to comment 1.3.
- 19.4 Comment noted.
- 19.5 It is the intent of the Bureau to pursue acquisition of these parcels if they become available. Based on comments received we have broadened our position concerning the Harrich Investments, LLC (formerly Aerojet) lands. Recovery of the desert tortoise could be facilitated by exchanging the legislatively leased lands for legislatively conveyed lands and adding those to the Kane Springs ACEC. The intent of an exchange would be to enhance ACEC reserve design as well as improve critical desert tortoise habitat. For this reason we have identified the leased lands as being suitable for disposal through exchange, in addition to retaining the option of acquiring all of the Harrich Investments, LLC lands. See response to comment 1.3.
- 19.6 The paragraph has been changed to include the USFWS's willingness to work on proactive approaches in the consultation and review process for minerals activities in the planning area to allow mineral activities to continue.

The BLM does not have any discretion whether to review a plan of operation under the 1872 Mining Law, as amended. BLM's mandate is to ensure that undue and unnecessary degradation of public lands does not occur and that the operations do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. A plan of operation for a locatable mineral would not be completely shut down unless a jeopardy or adverse modification opinion is

received by the USFWS. Based on the type of mineral activity, adverse habitat modification or jeopardy of the continued existence of the species could occur no matter what types of design constraints or mitigation measures are applied to a project. It is our understanding that a jeopardy opinion would occur and as such the project would not proceed.

- 19.7 Please refer to page 4-79 of this document for a discussion on the compensation strategy.
- 19.8 This Proposed Plan Amendment does not address issues at the allotment evaluation level. However, when the allotment is evaluated we will provide the opportunity for the Service to provide input into the evaluation process. We currently work with the permittees to encourage use of all existing water hauls and are in the process of authorizing additional water haul locations within the Lower Lake West Allotment.
- 19.9 The BLM has provided additional information in the Proposed Action for OHV Management. We have included a brief discussion on OHV monitoring on p. 2-25 of this document.
- 19.10 See responses to comments 19.5 and 1.3.
- 19.11 In response to your comment, this has been changed.
- 19.12 Specific details of the restrictions on OHV use in the Las Vegas District changed several times in their planning process and even changed between the Proposed Final RMP and the Record of Decision. Current restrictions are likely to change in the future pending the findings of proposed monitoring studies. Discussions continue between interested groups within Clark County which may change them once again in the future. We prefer simply to acknowledge that there are likely to be differences between our OHV management strategies which, although different, are compatible. A discussion on consistency with the recommendations in the Recovery Plan has been added (see page 1-5 of the FEIS).
- 19.13 In response to your comment the document has been revised, see page 1-8 of this document.
- 19.14 The BLM does not propose to issue permits for research on public lands. However, when NDOW or USFWS issues a permit for research that will occur on public land, coordination should occur with the Bureau so we do not permit some other kind of activity (OHV event, vegetative collection, etc.) that is incompatible with the research.
- 19.15 A programmatic Section 7 consultation is ongoing with regard to fire management.
- 19.16 Please refer to page 3-7 of this document for a list of the threatened and/or endangered fish species that can be found within the planning area. While it may be true that the pumping of water may affect the Moapa dace, that potential impact would be analyzed through a separate NEPA analysis.
- 19.17 We agree with you that it does seem inappropriate to identify 0-10 and 1-10 as two separate density classes. However, this is how the data was presented in Karl (1981).
- 19.18 See response to comment 18.4.
- 19.19 In response to your comment, appropriate corrections have been made throughout this document.

- 19.20 Thank you for this very well written comment. This has been added to this document on page 4-4.
- 19.21 See response to comment 16.3.
- 19.22 In response to your comment, these have been updated and the corrected text has been added to this document.
- 19.23 An "interim closure" was published in the Federal Register in accordance with regulations, to change the OHV designation for the Piute-El Dorado DWMA from "open" to "limited to designated roads and trails." The change in designation applied only to casual OHV use, and did not affect organized, permitted events. However, the Los Angeles to Barstow to Vegas event, as with all permitted events, was required to, and conformed with, the OHV designation for the area.
- 19.24 In response to your comment, appropriate corrections have been made throughout this document.
- 19.25 Coyote Springs Investment (CSI), has expressed interest in adjusting the land ownership pattern in the Coyote Springs area, through an exchange, to consolidate their holdings. The scope of this document is to identify if the lands they wish to acquire are suitable for disposal and under what conditions. Specific actions such as the actual exchange and future development plans are beyond the scope of this amendment. If the exchange goes forward, at that time a specific plan of development will be submitted with the proposed action and will be analyzed through the NEPA process as a separate action.
- 19.26 The majority of the mitigation measures suggested at the Boulder City meeting with regard to fire and tortoise have been adopted and are listed on page 2-33, of this document.
- 19.27 The correction from 15 to 26 has been made to reflect the most recent threshold in the Las Vegas District. At the time the draft plan was written, the number in the document was correct.
- 19.28 See Table 2-3 on page 2-27 of this document for OHV limitations to protect tortoise habitat within ACECs.
- 20.1 See response to comment 18.14.
- 20.2 See response to comment 16.3.
- 20.3 See response to comment 18.9. Much study has been conducted within the Northeastern Mojave Recovery Unit with numerous transects and two study plots in Lincoln County. These data are in this document in Tables 3-3 and 3-4 on page 3-14. These data also have provided the basis for conclusions reached by professionals on the low densities occurring in the planning area.
- 20.4 See response to comment 6.3.
- 20.5 See response to comments 17.11 and 18.14.
- 20.6 See response to comment 6.3.
- 20.7 See response to comment 6.6.

- 20.8 See responses to comments 18.14 and 17.11.
- 20.9 See response to comment 6.8.
- 20.10 See response to comment 6.9.
- 20.11 See response to comment 6.10.
- 20.12 Please see pages 4-25 through 4-29 of this document, for a discussion of economic impacts under the Proposed Action. Please see, also, the response to comments 6.18 and 23.12, which provide further information on cumulative impacts.
- 20.13 Please see response to comment 6.11 above. Multipliers from the U.S. Department of Commerce Regional Input-Output Modeling System (RIMS II: U.S. Bureau of Economic Analysis, 1986) illustrate the economic impacts of the agricultural industry in Nevada. The reported multiplier for Output is 1.5825, which represents the total dollar change in total production from all industries for each additional dollar of goods and services delivered to the final consumer by the agricultural industry. The Earnings, or income, multiplier is 0.3302, which represents the total dollar change in earnings of households for each additional dollar of goods and services delivered to the final consumer by the agricultural industry. The Employment multiplier is estimated at 24.9, which represents the total change in the number of jobs for each additional 1 million dollars of goods and services delivered to the final consumer.
- 20.14 See response to comment 6.12.
- 20.15 The section you are referring to on page 4-26 of the FEIS states that, "Operating with a reduced herd size could make the operation economically untenable, and result in the abandonment or sale of the business". Please see also the response to comment 20.16.
- 20.16 For this particular operator, 377 AUMs of a total of 1,428 AUMs would be lost. The specific course of action an individual operator may take would depend largely upon the type of operation that is maintained, the efficiency of the operation, the availability of alternative sources of forage, and the feasibility of operating with a reduced herd size. In addition, the desirability of sale of the public land AUMs to the Clark County Habitat Conservation Plan, would be an appropriate consideration. The private land base of the operation might be sold to other ranch operators in the area, or made available for other development opportunities.

The BLM is very much concerned about the individual ranch operator. However, the Bureau is compelled by law to fully comply with the Endangered Species Act of 1973, as amended, as it relates to tortoise population and habitat management on the public lands. Every effort has been expended to meet the Bureau's responsibility attendant to the listing of the Desert Tortoise while minimizing, in every way possible, the adverse effects that may be suffered by individual ranch operators, other individuals in the community, or county industries.

- 20.17 See responses to comments 6.11 and 6.15.
- 20.18 Please see pages 4-25 through 4-29 of this document for a discussion of economic impacts under the Proposed Action. It is the purpose of an EIS to make clear the potential impacts, including the social and economic impacts, of an action by identification of their nature and effects. Through this

exposure, it is hoped, community requirements may be perceived and the necessary planning and preparation will be encouraged. No specific mitigation is proposed because BLM is without means or authority to provide mitigation for social and economic effects, or to compel private or community action, or to enforce any suggestions for mitigation. A form of mitigation is achieved by utilizing the analysis to achieve the necessary goals while minimizing the potential impacts on the community. Please see, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR, Part 1508, Section 1508.20.

- 20.19 See responses to comments 6.16 and 9.5.
- 20.20 See response to comment 18.14.
- 20.21 See response to comment 6.18.
- 20.22 See responses to comments 6.19 and 6.21.
- 20.23 See responses to comments 6.12 and 6.20.
- 20.24 See responses to comments 6.19 and 6.21.
- 20.25 See response to comment 16.5.
- 20.26 See responses to comments 22.12 and 13.4. The southern portion of Kane Springs Valley (where it joins into Coyote Spring Valley) and the entire Coyote Spring Valley is considered prime desert tortoise habitat. Therefore, this area is included in an ACEC and closed to mineral entry, including oil and gas exploration. The remainder of Kane Springs Valley (outside the ACEC) is lower density tortoise habitat. Therefore, this area was excluded from an ACEC and will remain open to mineral entry, including oil and gas exploration.
- 20.27 The Bureau realized that establishment of ACECs resulted in cutting off OHV events from Clark County heading north into Lincoln County. Due to this and as a result of our concern over its potential economic impacts to the county, a management direction was outlined on page 2-25 of this document which allowed for non-speed competitive, non-speed portions of speed events, and non-competitive OHV events to pass through ACECs on roads designated and open to OHV use. A total of five roads are proposed for designation (See Map 2-8) to allow for these types of events to proceed north through the ACECs into Lincoln County.
- 20.28 See response to comment 16.1.
- 20.29 Although soils are a component in the desert tortoise habitat requirements, a strict correlation does not exist between soil texture or other soil characteristics described in a soil map unit and the necessary area needed for tortoise recovery. Those areas suitable for burrowing or foraging are not all that is scientifically necessary for the recovery of desert tortoise. Also see response to comment 16.2.
- 20.30 See response to comment 18.14.
- 20.31 See response to comment number 17.2. In addition, the Ely Field Office does have a "good neighbor policy" with the three counties within its jurisdiction. This policy is stated in the Memorandum of Understanding among Lincoln, Nye and White Pine counties and the Ely Field Office finalized in 1997,

which states, "...to preserve the Quality of Life for the areas' current and future generations and strike a balance among competing needs and interests."

- 20.32 As stated on page 3-38 of this document, "Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that Federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects that impact low income and minority populations as a result of Federal programs, policies, or activities."

Page 3-38 of this document states, "according to recent demographic analysis conducted for the U.S. Department of Energy, Lincoln County contains eight census block groups. No census block groups in the county have low income or minority communities, as defined by the U.S. Bureau of the Census classifications and thresholds..." Therefore, Lincoln County is not considered economically disadvantaged in the Environmental Justice sense.

- 20.33 A full NEPA review was completed through the DEIS and FEIS. All procedural steps were followed. All impacts were analyzed, including economic inputs.
- 20.34 See response to comment 20.18.
- 20.35 See response to comment 18.14.
- 20.36 See response to comments 18.14.
- 20.37 See responses to comments 18.14, 3.1, and 17.11.
- 20.38 What you are proposing is the creation and analysis of a full-production/commodity-oriented alternative. See Alternative Four under the section on Alternatives Considered but Eliminated from Detailed Analysis. While this alternative would be very favorable to multiple use management of the public lands it would not, according to our current scientific understanding, meet the other part of the purpose and need; to assist in the recovery and delisting of the desert tortoise within the Northeastern Mojave Recovery Unit. Since it would not meet the purpose and need it would not be a viable alternative and should not be analyzed in detail. According to the CEQ Regulations for implementation of NEPA, "The range of alternatives discussed in an environmental impact statement shall encompass those to be considered by the ultimate agency decisionmaker." We cannot consider for selection as an Agency decision an alternative that does not meet the purpose and need. By the same reasoning, we did not analyze in detail a proposed "maximum protection" alternative. See response to comment 9.8.
- 21.1 See responses to comments 22.12 and 13.4. Mineral investigation was conducted for the planning area. This investigation developed mineral potentials for mineral materials, leasable and locatable minerals. The investigation was conducted using the existing minerals data known by the governmental agencies, published geological data, existing activities, known mineral occurrences and the mineral industry. This information was then analyzed with other resource data to establish the levels of protection that would be needed to protect the desert tortoise and habitat. Any future mineral technology will be evaluated. Withdrawals are reviewed periodically and if it is determined that the desert tortoise can be protected and allow mineral activity, the withdrawals can be removed.
- 22.1 Comment noted, see responses to comments 13.4 and 22.12.

- 22.2 You have pointed out a source of confusion which has been corrected in this document, however, there will be conflicting statements within this document since it is a NEPA obligation to disclose conflicting points of view. In this public disclosure document it would be wrong to only give one side of an issue. See response to comment 17.11 for a discussion of incomplete information in relationship to agency decision making, and the cost of waiting to proceed until information is more complete. See response to comment 18.13 for a discussion of the available scientific information used for the analysis. The three studies you refer to in your comment are not studies; they are simply general references to a lack of 100% conclusive scientific proof in regard to the impact of livestock on tortoise.
- 22.3 Lincoln County income and employment data were obtained from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System. These data enjoy a broad reputation for professional credibility. The market value of grazing permits is derived from recent appraisals by Pacific Agribusiness Service for the Clark County Habitat Conservation Plan.
- 22.4 See response to comment 18.14.
- 22.5 See responses to comments 18.14 and 3.1.
- 22.6 While it is true that the Desert Tortoise Research Natural Area (DTRNA) has experienced a large reduction in tortoise populations it did not necessarily occur because it was designated as a reserve. The losses of tortoises at the DTRNA was due in large measure to landscape-scale problems (raven predation disease). In addition, human activities on a local scale contributed to additional sources of mortality (vandalism and vehicle kills). The management activities proposed within the ACECs will help in reducing these problems. The coordination with NDOW and USFWS on predator control in problem areas would help reduce raven predation. Restriction of vehicle use to designated roads and trails would reduce vehicle caused mortalities. The improvement of habitat condition should reduce the threat of disease and the public awareness campaign and desert tortoise pickup service should also help reduce the number of captive tortoises being released back into the wild, reducing the threat of disease from them. The shooting of tortoise was a problem at the DTRNA which does not appear to be a problem here.
- 22.7 See response to comment 8.8.
- 22.8 See response to comment 6.3.
- 22.9 Alternative A of this document evaluated the impacts of allowing speed-based events to occur during the tortoise inactive season on designated corridors through the ACECs. Since there is currently no data to indicate that there would be adverse impacts to the tortoise or its habitat as a result of this, the alternative was considered to meet the purpose and need for this Proposed Plan Amendment. However, to be prudent in our efforts to provide protection, and aid in the recovery of the desert tortoise, we elected in the Agency Preferred Alternative to close ACECs to speed-based events pending the completion of monitoring studies on the indirect impacts of these types of events.
- 22.10 The limitations imposed in neighboring jurisdictions are imposed "de facto" on the Ely Field Office for all events that cross the boundaries (see Table 2-3 on page 2-27 of this document). See also response to comment 19.12 regarding consistency with Clark County.
- 22.11 ACEC boundaries within the planning area were based primarily on designated critical habitat, which included a majority of the tortoise transects that indicated the presence of desert tortoise, and

manageable boundaries on the ground. In developing the ACEC boundaries in some places it made more sense to use an existing fence as the boundary for the purpose of easier management rather than splitting an allotment. This was the case with the boundary of the Beaver Dam Slope and Mormon Mesa ACECs. When this process started Toquop Wash was the boundary for the Beaver Dam Slope and Mormon Mesa ACECs. The middle of the wash was the boundary so the wash was in an ACEC. This boundary split the Gourd Springs Allotment in half and resulted in it being in two ACECs. Based on management considerations, we revised the boundary to an existing fence between the Gourd Springs and Sand Hollow Allotments.

- 22.12 Closure of the Kane Springs ACEC would provide greater protection for the tortoise and its habitat then management of the ACEC under plans of operations. This is because the habitat in the Kane Springs ACEC is of higher quality and the population densities are higher than in the other ACECs. Due to these two aspects of the Kane Springs ACEC it would be very difficult to design a plan of operation that would sufficiently mitigate the impacts to the tortoise and its habitat and still provide for recovery of the desert tortoise. The closure would reduce the potential for further habitat fragmentation in the Northeastern Mojave Recovery Unit whose reserve design is already compromised because of the large edge effect (ratio of edge to interior area).

Once the tortoise is delisted and the Kane Springs ACEC opened to mineral entry, future minerals activities could be allowed in the ACEC and future technologies could be applied. In the Mormon Mesa and Beaver Dam Slope ACECs the BLM could reasonably ensure that operations do not jeopardize the recovery of a listed species or result in the destruction of adverse modification of critical habitat.

- 23.1 See response to comment 22.12.
- 23.2 The Proposed Action identified non-speed corridors which would allow non-speed portions of speed-based events to pass through ACECs on designated roads, including the several you suggest are already "high-speed, county maintained roads." Hundreds of square miles of public land would therefore not be blocked from OHV use, only from entirely high-speed events. Alternative A analyzed the possibility of allowing speed-based events to pass through ACECs during the tortoise inactive season (see impact analysis on page 4-31 of this document).
- 23.3 See response to comment 15.2.
- 23.4 See response to comment 14.2.
- 23.5 See responses to comments 22.12 and 13.4.
- 23.6 See response to comment 14.4.
- 23.7 See response to comment 6.3.
- 23.8 Even a lightly traveled road could be a threat to a desert tortoise. While the impacts from a lightly traveled road have the potential of being less than those from a heavily travel road, particularly indirect impacts (road widening, crushed vegetation, etc.), the potential still remains that a tortoise could get run over on a lightly traveled road which would be an impact to the tortoise.

- 23.9 It is impossible for us to be consistent with an "ongoing Planning Group effort" whose decisions are yet to be reached, and whose decisions, once reached would have no meaning unless they are adopted by the BLM through a plan amendment. We also cannot be consistent with both neighboring management strategies that are inconsistent with each other.
- 23.10 Road closures, if determined to be necessary, would be accomplished through a future public process of road designation. The primary purpose of that process would be to identify roads that currently exist, and minimize the potential for creation of new roads. Where multiple roads access the same location, and/or are determined to cause particular harm to the tortoise or its habitat, roads may be closed.
- Habitat fragmentation is a legitimate, scientific reason to close roads. Roads can form barriers to movement, which fragment the habitat and tend to create small, local populations which are much more susceptible to extinction than large, connected ones. Habitat fragmentation is a major contributor to population declines. Areas that have a high density of roads will have greater habitat fragmentation than areas that have a low density of roads. Road densities in the planning area appear to be lower than in other areas of the Northeastern Mojave Recovery Unit. By designating necessary roads and trails and closing the unnecessary roads and trails within the planning unit, habitat fragmentation can be reduced.
- 23.11 The area north of Mesquite was not designated critical habitat to allow for the expansion of Mesquite. Another factor considered was that the habitat was less suitable.
- 23.12 Since 1978 only one grazing allotment in the planning area has had reductions in AUMs. This reduction totaled 162 AUMs, and is a temporary reduction scheduled to be restored on February 28, 2000.
- 23.13 The impacts of radiation to the tortoise population is addressed on page 4-5 of this document under the section on Incomplete and/or Unavailable information.
- 23.14 See response to comments 17.11 and 18.14.
- 23.15 This is what is being conducted in the desert tortoise recovery effort. There are six recovery units within all of desert tortoise habitat. As the tortoise populations recover in each of these units, the tortoise can be delisted in that particular unit rather than waiting for the tortoise to recover on a rangewide basis.
- 23.16 See responses to comments 17.2 and 20.18.
- 23.17 The number of allotments in the planning area is 25 and 38 individual operators, which have 48,453 AUMs (see page 3-24 and Table 3-5 of this document). For impacts to individual operators refer to pages 4-22 and 4-23 of this document.
- 23.18 Grazing may return after delisting has occurred, after the BLM has amended their land use plan. Priority would be given to operators in accordance to 43 Code of Federal Regulations.
- 23.19 It is unlikely that the ACECs would disappear after delisting. The ACECs would be credited with aiding in the recovery and delisting of the tortoise and would most likely be maintained for the tortoise and to prevent listing of other species.

- 23.20 See response to comment 8.7.
- 23.21 See response to comment 18.13. The Western Regional; Corridor Study of 1986, identified a corridor coming into the Caliente/Panaca/Pioche area from Enterprise, Utah west to Lincoln County. This route is considered by the utility and pipeline industries as the shortest and most cost effective route into northern Lincoln County. That route is outside the scope of this document. A proposed corridor following U.S. Highway 93 will service the Alamo and Hiko areas. Topographic features, esthetic value, wilderness concerns and other threatened and endangered species may preclude Rainbow Canyon from new utility projects. Caliente would be served more cost effectively from the south, along the existing utility route through Delamar, than through Rainbow Canyon.
- 23.22 See responses to comments 6.12 and 20.13.
- 23.23 See response to comment 20.29.
- 23.24 Several studies have shown that perennial vegetation and particularly grasses have increased and/or reestablished after grazing reductions or elimination in desert environments. These data are cited in the document and discussed on page 3-19 of this document.
- 23.25 See response to comment 16.5.
- 23.26 See response to comment 17.2.
- 23.27 There is only one instance that we are aware of in which a "certificated water right" for stockwater would be affected by the elimination of livestock grazing.
- It is assumed that there is no "loss" because, the certificated use authorized by the Nevada State Water Engineer was contingent and dependant upon a privilege to graze the public lands which is proposed to be revoked. This action does not prevent that water right holder from applying to the Nevada State Engineer for any other use of the water, nor does it appropriate the water for the benefit of the United States.
- 23.28 Loss of tax revenue as a direct loss of AUMs for the planning unit is estimated to be \$100.00 annually (see page 4-26 of this document).
- 23.29 If the delisting criteria are met before the end of the 25 years, then grazing could be returned sooner (see page 1-3 of this document).
- 23.30 The Recovery Plan determined that DWMA/ACEC of at least 1,000 square miles was recommended as the target size. ACECs of this size will likely provide sufficient buffering from demographic random events and genetic problems at low population densities, and they are large enough to support recovered populations that have reasonable probabilities of persistence into the future. The utility of large ACECs in preventing extinction is one of the best established tenets of conservation biology. Large ACECs will also facilitate managing desert tortoise population within ACECs to maintain average lambdas of 1.0 or more during the recovery process.
- 23.31 See response to comment 18.13.

- 23.32 The loss of 121,000 acres in what used to be prime tortoise habitat of the Las Vegas Valley certainly does affect tortoise. It was the biological opinion of the USFWS that the loss of these areas to the tortoise was not likely to jeopardize the continued existence of the species. While thousands of tortoise will be killed, as stated on page 4-105 of this document, "The number of tortoise which will be directly and indirectly impacted by development of the...Las Vegas Valley is unknown."
- 23.33 The only functional range improvement, such as waters inside ACECs, are on the Sand Hollow Allotment and the BLM does not have water rights on that pipeline. The Snow Springs Allotment currently obtains water through the pipeline, so the Snow Springs operators will be able to continue maintaining the pipeline. Other range improvements inside ACECs that do not serve any purpose for wildlife will not be maintained and may be removed if it would be a benefit to desert tortoise or other wildlife species.
- 23.34 See response to comment 17.2 and refer to the economic impacts from the Proposed Action in this document.
- 23.35 Yes. Any party who has participated in the planning process may file a letter of protest. The protest may raise only issues that were submitted for the record while the amendment was being prepared.
- 23.36 See response to comment 18.14.
- 23.37 See response to comment 18.15.
- 23.38 See response to comment 18.15 and 12.14.
- 23.39 There is no information that suggests that "desert tortoise are at the highest population levels ever in Lincoln County". In fact the evidence leads to the conclusion that desert tortoise numbers in parts of Lincoln County are dangerously low (see Tables 3-3 and 3-4 on page 3-14 of this document).
- 23.40 See response to comment 18.15 and 12.13.
- 23.41 See response to comment 23.30.
- 23.42 See response to comment 17.2.
- 23.43 See response to comment 3.1. The recovery criteria are identified in the Recovery Plan and on page 1-3 of this document.
- 23.44 We would hope to gain voluntary compliance through educational efforts and adequate signing of restricted areas. Although law enforcement presence is relatively scarce, it is directed at the areas of greatest resource concern. Therefore, if problems became apparent, law enforcement presence would be directed to resolve them.
- 23.45 See response to comment 18.15.
- 23.46 As part of the process in preparing the DEIS and FEIS for this amendment the Ely Field Office of the BLM has conducted government to government consultations with the Moapa Band of Paiute and the Shivwits Band of Utah Paiutes (Santa Clara).

Philbert Swain, Tribal Chairman of the Moapa Band of Paiutes, at this time, stated during a meeting September 9, 1998, that the desert tortoise is considered sacred to his people. The Paiutes used to kill desert tortoise for their meat and shells. The meat was eaten by members of the tribe and their shells were used for sacred ceremonies. This practice was stopped with the listing of the desert tortoise by the USFWS.

In addition, Philbert: 1) questioned the premise that desert tortoise and livestock grazing cannot co-exist (see response to comment 18.14); 2) asked how many tortoise exist today, how many does there need to be for recovery, and how will we know when the population is recovered (see response to comment 17.8); and 3) stated the tribe has approached personnel in Clark County to receive fair market value for their Rox-Tule livestock grazing permit (eliminated by the Proposed Action) from funds available through the Clark County Habitat Conservation Plan.

The Shivwits Band of Utah Paiutes expressed no concerns with the Proposed Plan Amendment.

23.47 See response to comment 6.3.

23.48 See response to comment 8.8.

23.49 See response to comment 15.2.

23.50 See response to comment 18.14.

23.51 See response to comments 13.4 and 22.12.

23.52 The BLM and Nellis have an open dialog during the wildfire season to reduce aircraft caused fires. On a daily basis Nellis contacts Las Vegas and Ely BLM to determine fire danger. Based on that danger Nellis will adjust the types of flares they use as well as mission parameters. The BLM still has authority to seek repayment of damages for Air Force caused fires on public lands.

23.53 See response to comment 23.12.

24.1 See responses to comments 13.4 and 22.12.

25.1 The road designation process proposed in this document will be a public process to which you will be invited to participate.

26.1 See response to comment 6.3.

26.2 See response to comment 23.8.

26.3 Thanks for your suggestion. We intend to make use of all of the existing information and technology available to arrive at the best possible decision.

26.4 The road designations proposed for the ACECs are primarily intended to document existing roads and discourage the creation of new roads that can occur through repeated off-road travel.

27.1 See page 1-5 of this document for consistency with other plans. Also see response to comment 19.12.

- 27.2 Corridor designations through the ACECs are part of the Proposed Action.
- 27.3 Toquop Wash Road is not being designated as a corridor because it is not open to organized OHV use in the Las Vegas Field Office.
- 27.4 See response to comment 26.3.
- 27.5 See response to comment 25.1.
- 28.1 See responses to comments 13.4, 21.1, and 22.12.
- 28.2 Road designations, including possible closures will be made through a public process within the limits of all laws.
- 29.1 See response to comment 23.46 and page 5-2 of this document.
- 30.1 Comment noted.





Letter 1

Board of County Commissioners Lincoln County, Nevada

COUNTY COMMISSIONERS

PAUL CHRISTENSEN
REY FLAKE
DAN FREHNER
JIM MANNER
ED WRIGHT

P.O. BOX 90, PIOCHE, NEVADA 89043

TELEPHONE (702) 962-5390

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DISTRICT ATTORNEY

PHILIP H. DUNLEAVY

COUNTY CLERK

CORRINE HOGAN

June 5, 1998

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, Nevada 89301-9408

RE: Preliminary Comments to Draft Caliente Management Framework Plan Amendment
and Environmental Impact Statement for the Management of Desert Tortoise Habitat

Dear Mr. Drais:

The Board of Lincoln County Commissioners, with the assistance of the County's Public Land Commission, have initiated a review of the Draft Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat and offer the following preliminary comments thereto.

1. The Draft MFP and EIS considers only public land. Within the study area, several thousand acres of private land exist. In most cases, these lands are surrounded by public land and are often used in conjunction with permitted uses on public lands (ie. livestock grazing). Lincoln County is currently in the process of developing a habitat conservation plan for Desert Tortoise. The Board of County Commissioners recommends that the discussion in the Draft MFP and DEIS be broadened to include private land in Lincoln County south of the 38th parallel and below 4,000 feet in elevation. The County Anticipates that subsequent assessment in the EIS will result in limiting the impacted lands to those within designated Desert Tortoise Critical Habitat Areas.

Letter 1 Continued

In addition to existing private land, the Draft MFP Amendment and EIS should also reflect the need for and likelihood that public land in Lincoln County will be transferred to private ownership through sale or exchange. During the next 20 years, Lincoln County anticipates that an estimated 15,000 acres of public land may be required to be converted to private ownership in order to assimilate anticipated industrial, commercial, and residential growth in the County. Much of this growth is expected to occur south of the 38th parallel and below 4,000 feet in elevation. Expected growth centers include the Pahranaagat Valley; in the vicinity of Mesquite; and Coyote Springs Valley. The conversion of public land to private ownership will be an important determinant to the economic and fiscal future of Lincoln County.

12

The addition of private lands to the coverage of the Draft MFP and EIS will not add appreciably to the total acreage of land included within the document. It will however, ensure that the management of desert tortoise habitat is well coordinated between actions of the BLM and Lincoln County (which has land use decision authority over private land in Lincoln County).

2. Page C-5 (2nd to last paragraph) identifies the acquisition of legislatively transferred private holdings (formerly Aerojet Corporation lands) for possible future acquisition and inclusion into the Kane Springs ACEC. This private land area represents a critical location for future mixed-use development in Lincoln County and a key to County economic diversification efforts. Acquisition of these private lands by BLM should not be considered. Rather, BLM should consider exchanging public lands in Coyote Springs Valley which are landlocked by the former Aerojet Corporation lands for private lands elsewhere in Lincoln County. This would block-up the former Aerojet Site further enhancing its development potential and value to Lincoln County's economic future.

13

Lincoln County, through the actions of the Planning and County Commissions, is responsible for administration of private land use in the County. The Lincoln County Desert Tortoise Habitat Conservation Plan will likely include recommended measures to mitigate habitat loss resulting from development of private land in the County. As in neighboring Clark County, such measures may provide funds for implementation of measures designed to manage designated desert wildlife conservation areas identified through the MFP amendment and EIS process. Close cooperation between BLM and Lincoln County in the design and implementation of HCP's relating to public and private land within the County appears warranted. To facilitate such coordination, Lincoln County requests designation as a cooperating agency in the preparation of the final Caliente MFP amendment and EIS for the management of desert tortoise habitat.

Letter 1 Continued

Lincoln County reserves the right to submit additional comments to the Draft MFP and EIS. On behalf of my fellow Lincoln County Commissioners, I would like to thank you for your consideration of these comments and the County's request for designation as a cooperating agency.

Sincerely,

A handwritten signature in cursive script that reads "Edward E. Wright". The signature is written in dark ink and is positioned to the right of the word "Sincerely,".

Ed Wright
Chairman

cc: Members, Lincoln County Public Land Commission
Members, Lincoln County Planning Commission
Ms. Pam Wilcox, Director, Nevada Division of State Lands

Letter 2

COYOTE SPRINGS INVESTMENT, LLC

June 24, 1998

Mr. Gene Kolkman
District Manager
Bureau of Land Management
Ely District Office
HC33 Box 33500
Ely, Nevada 89301

Mr. Mike Dwyer
District Manager
Bureau of Land Management
Las Vegas District Office
4765 W. Las Vegas Drive
Las Vegas, NV 89109-2135

RE: Proposal To Exchange Private Land in Coyote Springs Valley for Public Land in Coyote Springs Valley

Dear Messrs. Kolkman and Dwyer:

Through this correspondence, Coyote Springs Investment (CSI) is expressing interest in exchanging CSI held land (former GenCorp Aerojet land) in Coyote Springs Valley (or other private lands to be acquired) for public land in Coyote Springs Valley. Specifically, CSI seeks to acquire through exchange 13, 767 acres more or less located within Townships 11, 12, and 13 South of Range 63 East. As shown on the attached map and more particularly described in Exhibit A, the subject parcel is located within Lincoln and Clark counties. CSI currently holds a leasehold interest from the Bureau of Land Management (BLM) in the subject lands. As depicted on the attached map, the lands to be acquired by CSI are entirely surrounded by land held in fee simple title by CSI.

2.1

CSI is prepared to offer private land it owns in Coyote Springs Valley which is adjacent to areas designated as critical desert tortoise habitat and proposed for designation as desert wildlife management areas (DWMA's) by BLM. Alternatively, CSI is willing to consider acquisition of other private lands as the basis for exchange. In either case, if necessary, CSI is prepared to consider the need for equalization of land values between offered and requested lands.

The consolidation of CSI private lands will minimize development constraints and therefore enhance the economic development potential of these lands for Lincoln and Clark counties. The public interest will be served through this proposed exchange by enabling expansion of proposed DWMA's and helping to facilitate economic development opportunities in Lincoln and Clark counties. At their meeting on June 5, the Lincoln County Board of Commissioners approved sending a letter to BLM requesting favorable Bureau consideration of the exchange proposed by CSI. Lincoln County has further requested that the proposed exchange be addressed within the scope of the Caliente MFP Amendment and EIS for Desert Tortoise Habitat Management which is currently out for public review and comment. CSI agrees with the merits of incorporating the proposed exchange within the Caliente MFP Amendment and EIS.

2.2

To encourage a more efficient and effective exchange process, CSI would appreciate the opportunity to meet with Ely and Las Vegas District staff to discuss and share information and ideas about the proposed exchange. Either myself or Dr. Mike Baughman of Intertech Services Corp will contact the

Letter 2 Continued

June 24, 1998

Messrs. Kolkman and Dwyer

Page 2

your Ely and Las Vegas District offices next week to try to schedule such a meeting.

CSI looks forward to working with the BLM to promulgate a land exchange which accomplishes important public interest objectives and enhances economic development opportunities in Lincoln and Clark counties. Your consideration of this proposal is very much appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Derck", enclosed within a large, loopy circular flourish.

Gary Derck
General Manager

xc: Board of Lincoln County Commissioners
Board of Clark County Commissioners
Dr. Mike Baughman (Intertech Services Corp.)

Letter 2 Continued

EXHIBIT A

A leasehold estate in and to the following:

Mount Diablo Meridian Nevada:

Township 11 South, Range 63 East, (Lincoln County, Nevada):

Sections 19, 30 and 31, that portion lying Easterly of the Centerline of U.S. Highway 93 and the Western boundary of the transmission corridor, that boundary being $\frac{1}{2}$ mile Easterly from the Centerline of U.S. Highway 93.

Township 12 South, Range 63, (Lincoln County, Nevada):

Section 4, all

Sections 5, 9, 16, 21, 28, 33, that portion lying Easterly of the Eastern boundary of the transmission corridor, that boundary being $1\frac{1}{2}$ miles Easterly of the Centerline of U.S. Highway 93.

The North Half ($N\frac{1}{2}$) of the North Half ($N\frac{1}{2}$) of Section 6 lying Easterly of the Centerline of U.S. 93 and Westerly of the Westerly boundary of the transmission corridor, that boundary being $\frac{1}{2}$ mile Easterly of the Centerline of U.S. Highway 93.

Section 15, all;

Section 22, all;

Section 23, Southwest Quarter (SW $\frac{1}{4}$);

Section 26, West Half ($W\frac{1}{2}$);

Section 27, all;

Section 34, all;

Section 35, all.

Township 13 South, Range 63 East, (Clark County, Nevada).

Section 1, West Half ($W\frac{1}{2}$) of the West Half ($W\frac{1}{2}$) of the East Half ($E\frac{1}{2}$), and the West Half ($W\frac{1}{2}$);

Section 2, all;

Sections 3, 4, 10 and 15, that portion lying Easterly of the eastern boundary of the transmission corridor, that boundary being $1\frac{1}{2}$ miles from the Centerline of U S. Highway 93;

Section 11, all;

Section 12, all;

Letter 2 Continued

Section 13, all;

Section 14, all;

Section 22, that portion lying Northerly of a boundary $\frac{1}{4}$ mile from the Centerline of State Highway 168 and Easterly of the eastern boundary of the transmission corridor, that boundary being 1 $\frac{1}{2}$ miles Easterly of the Centerline of U.S. Highway 93;

Sections 23 and 24, that portion lying Northerly of a boundary $\frac{1}{4}$ mile from the Centerline of State Highway 168.

Letter 3

PETER G. MORROS
Director

Department of Conservation
and Natural Resources

PAMELA B. WILCOX
Administrator

BOB MILLER
Governor



State Land Office
State Land Use Planning Agency
Address Reply to
Division of State Lands
333 W. Nye Lane, Room 118
Carson City, Nevada 89706-0857
Phone (702) 687-4363
Fax (702) 687-3783

STATE OF NEVADA


DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Division of State Lands

June 15, 1998

MEMORANDUM

TO: Ms. Maud Naroll, Nevada State Clearinghouse

FROM: Nevada Division of Lands 

SUBJECT: SAI # E1998-128 Draft Caliente Management Framework Plan Amendment and EIS for the Management of Desert Tortoise Habitat.

We would like to complement the BLM in drafting a Draft Environmental Impact Statement (DEIS) that in our view is clearly written, and provides a thorough and objective analysis based on available information. We particularly appreciated the information that described the assumptions and methodology used for the analysis, and the discussion related to incomplete and/or unavailable information.

We believe the BLM has attempted to adjust the recommendations in the recovery plan to consider other multiple uses such as recreation and minerals, while still meeting the needs of the tortoise. We assume the BLM's Preferred Alternative has the support of the biology community concerned with the recovery of the tortoise.

As clearly stated in the DEIS, significant controversy exists related to potential impacts on the tortoise from grazing. The reasons for closing the ACECs to grazing given in the DEIS are 1) livestock use has changed the vegetative type to one that is less than optimal for tortoises; 2) physical damages to the land have occurred from overuse, such as the loss of habitat plant cover, soil compaction etc., al. The DEIS provides for a "bundle" of management direction for a variety of resources, both within the ACECs and outside the ACECs to improve conditions for the tortoise. As stated in the DEIS, the potential impacts on the tortoise come from a variety of sources including predation, grazing, impacts from recreation users, development of utility corridors, mining, and items beyond the agencies control such as drought and disease.

Because of the complexity of the potential impacts, we recommend the BLM (and the Fish and Wildlife Service) develop an ecosystem monitoring approach to measure changes to the tortoise, both within the ACEC and outside the ACEC. The monitoring would be designed to evaluate the effectiveness of the BLM's Preferred Alternative in providing for the tortoise. Designing a monitoring scheme to evaluate the tortoise population using an ecosystem or more "holistic" approach, rather than a narrow research effort may help us begin to understand the effects of a variety of uses on the tortoise.

3.1

Letter 3 Continued

Although we understand why the agency may choose to close the ACECs to grazing, we are not convinced that closing these areas, based on the current level of grazing will materially result in an improved habitat for the tortoise. We hope that the agencies (including the Fish and Wildlife Service) would look for ways to manage livestock in a way that is compatible with the needs of the tortoise, rather than to rely on closures.

3.2

3.3

Existing family ranching operation are an important element in the Nevada lifestyle and we would encourage the BLM to look at all possible options to maintain these operations. We appreciate the opportunity to comment on this DEIS and please feel free to contact us if there are any questions.



DEPARTMENT OF ADMINISTRATION

Capitol Complex
Carson City, Nevada 89710
Fax (702) 687-3983
(702) 687-4065

June 30, 1998

Bureau of Land Management Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, NV 89301-9408

Re: SAI NV # E1998 - 128

Project: Draft Caliente Management Framework Plan and Environmental Impact Statement for
the Management of Desert Tortoise Habitat

Dear Mr. Drais:

Enclosed are the comments from the Nevada Divisions of Natural Heritage, State Lands, and the Bureau of Mines concerning the above referenced report. These comments constitute the State Clearinghouse review of this proposal as per Executive Order 12372. Please address these comments or concerns in your final decision. If you have questions, please contact me at 687-6367.

Sincerely,

A handwritten signature in cursive script that reads "Heather K. Elliott".

Heather K. Elliott
Nevada State Clearinghouse

Enclosures

NEVADA STATE CLEARINGHOUSE

Letter 4 Continued

Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(702) 687-4065
fax (702) 687-3983

RECEIVED MAY 14 1998

RECEIVED

JUN 2 4 1998

DEPT. OF ADMINISTRATION
DIRECTOR'S OFFICE

DATE: May 12, 1998

Governor's Office

Agency for Nuclear Projects
Business & Industry
Agriculture
Energy
Minerals
Economic Development
Tourism
Fire Marshal
Human Resources
Aging Services
Health Division
Indian Commission
Colorado River Commission

Legislative Counsel Bureau

Information Technology
Emp. Training & Rehab Research Div.
PUC
Transportation
UNR Bureau of Mines
UNR Library
UNLV Library
Historic Preservation
Emergency Management
Washington Office

Conservation-Natural Resources

Director's Office
State Lands
Environmental Protection
Forestry
Wildlife
Region 1
Region 2
Region 3
Conservation Districts
State Parks
Water Resources
Water Planning
Natural Heritage
Wild Horse Commission

Nevada SAI # E1998-128

Project: Draft Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat

☒ Yes ☐ No Send more information on this project as it becomes available.

CLEARINGHOUSE NOTES:

Enclosed, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs the importance of its contribution to state and/or local areawide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than June 30, 1998. Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Maud Naroll, 687-6366.

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

☐ No comment on this project
☒ Proposal supported as written
☒ Additional information below
☐ Conference desired (See below)
☐ Conditional support (See below)
☐ Disapproval (Explain below)

AGENCY COMMENTS:

In reference to the list (p. 3-21) of sensitive plant species found in the planning area, our records indicate the presence of three additional BLM special status species: Arctomecon merriamii (white bearpoppy, designated BLM sensitive), Astragalus ceveri var. triquetrus (threecorner milkvetch, listed critically endangered by State of Nevada), and Eriogonum viscidulum (sticky buckwheat, listed critically endangered by State of Nevada). The two State-listed species occur within the proposed Beaver Dam Slope ACEC, designation of which would enhance conservation management for these species. For these and the other conservation management reasons documented in the draft EIS, we support the proposed action.

4.1

James D Morefield
Signature

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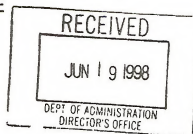
Natural Heritage
Agency

6/22/98
Date

Letter 4 Continued

NEVADA STATE CLEARINGHOUSE

Department of Administration
Budget and Planning Division
209 East Musser Street., Room 200
Carson City, Nevada 89701-4298
(702) 687-0065
fax (702) 687-3983



DATE: May 12, 1998

Governor's Office
Agency for Nuclear Projects
Business & Industry
Agriculture
Energy
Minerals
Economic Development
Tourism
Fire Marshal
Human Resources
Aging Services
Health Division
Indian Commission
Colorado River Commission

Legislative Counsel Bureau
Information Technology
Emp. Training & Rehab Research Div.
PUC
Transportation
UNR Bureau of Mines
UNR Library
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Historic Preservation
Emergency Management
Washington Office

Conservation-Natural Resources
Director's Office
State Lands
Environmental Protection
Forestry
Wildlife
Region 1
Region 2
Region 3
Conservation Districts
State Parks
Water Resources
Water Planning
Natural Heritage
Wild Horse Commission

Nevada SAI # E1998-128

Project: Draft Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat

☒ Yes ☐ No Send more information on this project as it becomes available.

CLEARINGHOUSE NOTES:

Enclosed, for your review and comment, is a copy of the above mentioned project. Please evaluate it with respect to its effect on your plans and programs; the importance of its contribution to state and/or local area-wide goals and objectives; and its accord with any applicable laws, orders or regulations with which you are familiar.

Please submit your comments no later than June 30, 1998. Use the space below for short comments. If significant comments are provided, please use agency letterhead and include the Nevada SAI number and comment due date for our reference. Questions? Maud Naroll, 687-6366.

THIS SECTION TO BE COMPLETED BY REVIEW AGENCY:

☐ No comment on this project
☐ Proposal supported as written
☒ Additional information below
☐ Conference desired (See below)
☐ Conditional support (See below)
☐ Disapproval (Explain below)

AGENCY COMMENTS:

The preferred alternative outlined in the Draft Caliente Management Framework Plan includes withdrawal of the 95,900 acre Kane Springs ACEC and restrictions to mining in two other ACEC's. The comment made that mineral potential is minimal within the Kane Springs ACEC is based mostly on inferred information; very little mineral data exists for this area. For a proposed withdrawal of this extent, more definitive mineral information must be gathered. Although it is difficult to determine the exact boundary of the Kane Springs ACEC from the maps provided in the draft document, it appears the area may include outcrops of Paleozoic rock similar to those containing lead-zinc and precious metals mineralization at locations within the Desert National Wildlife Refuge to the west, and in districts to the south in Clark County.

The proposed Kane Springs withdrawal may block access to public lands in the southern Delamar Mountains, restricting mineral exploration; how would access to these areas be managed?

4.2

Signature J. W. [Signature]
s:\shardat\clear\clear.doc

Agency NBMS / UAR

Date 6/16/98

Letter 5
STATE OF NEVADA



DEPARTMENT OF ADMINISTRATION

209 E. Musser Street, Room 200
Carson City, Nevada 89701-4298
Fax (702) 687-3983
(702) 687-4065

August 11, 1998

Mr. Gene L. Drais, Project Manager
Bureau of Land Management
HC 33, Box 33500
Ely, NV 89301-9408

Re: 1610 (NV-910) SAI NV # 1998-128

Project: Draft Caliente Management Framework Plan Amendment and
Environmental Impact Statement for the Management of Desert Tortoise Habitat

Dear Mr. Drais:

Enclosed is an additional comment from the Nevada Division of Wildlife that was received after our previous letter to you. Please incorporate this comment into your decision making process. If you have any questions, please contact me at (702) 687-6367.

Sincerely,

A handwritten signature in cursive script, appearing to read "Heather K. Elliott".

for Heather K. Elliott
Nevada State Clearinghouse/SPOC



BOB MILLER
Governor

Letter 5 Continued

STATE OF NEVADA

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WILDLIFE

1100 Valley Road

P.O. Box 10678

Reno, Nevada 89520-0022

(702) 688-1500 • Fax (702) 688-1595

Region III

III-99-004

4747 Vegas Drive

Las Vegas, NV 89158

August 7, 1998

PETER G. MORROS

Director

Department of Conservation
and Natural Resources

WILLIAM A. MOLINI

Administrator

Mr. Gene L. Drais, Project Manager
Bureau of Land Management
Ely Field Office
HC 33, Box 33500
Ely, NV 89301-9408

RE: 1610 (NV-910) Draft Caliente Management Framework Plan Amendment for the Management of Desert Tortoise/Habitat Environmental Impact Statement

Dear Gene:

Only the Proposed Alternative was reviewed as it is the closest to covering all the bases regarding desert tortoise management and recovery concerns. A few typographical and punctuation errors were still encountered throughout the Draft Amendment and EIS, but not noted. A thorough review of spelling, grammar, context, and punctuation by BLM is recommended.

Issue: Increased protection of desert tortoise populations and habitat to assist with recovery goals outlined in the Desert Tortoise Recovery Plan.

Conclusion: Proposed Action of the MFP Amendment directs development of three Areas of Environmental Concern (ACECs) on which primary management emphasis will be for desert tortoise recovery. Land-use restrictions on ACECs benefitting the desert tortoise will generally allow other multiple-use management to continue. This MFP Amendment is not the panacea for resolving all management issues in the Caliente resource area, but it is a welcome breath of fresh air.

SUMMARY OF ALTERNATIVES

Table S-1 Summary of Alternatives:

General Comment:

No mention is made of enhanced protection of springs and desert riparian areas. What measures will be taken to maintain or enhance willow, cottonwood, and mesquite/acacia galleries and stringers that are important to special status species like but not limited to: endemic fish and amphibians, gila monster, phainopepla, Southwest Willow Flycatcher, and bighorn sheep. How will BLM manage these areas? No where in Table S-1 is attention given to desert spring, seep, and riparian protection. It is not believed any of the statements in the SMA, Wildlife, Forestry, Livestock

5.1

Letter 5 Continued

Grazing, Feral Equid, or Recreation Management sections address protection inside or outside ACECs. Protection to springs, seeps and riparian is imperative, this is particularly obvious for areas outside the ACECs where livestock and equids will continue to roam. 5.2

Page S-3, 2nd paragraph of Wild Horse and Burro Management: How will utilization levels be evaluated in areas where livestock use also occurs; does this help in AML and AUM adjustments? Is this another way for BLM to infer that feral equid removals will occur if conflict with AUMs for the Grazing Allotments occur? Will AMLs be set after utilization levels are exceeded and the number of feral equids (not other livestock) are removed until utilization levels are not exceeded? How will this interface with AUM adjustments? 5.3

Table S-2 Summary of Impacts

Page S-10, Proposed Action column, 4th paragraph: Simply stating "Upward" is biologically unreal and inappropriate concerning long-term population viability in context of the recovery plan. A more meaningful rewrite might be, "Encourage upward trend to attain long-term stability and viability goals; avoid long-term downward trends." 5.4

Page S-11, Proposed Action column, last paragraph: How can numbers for horse removal be established *a priori* in this document. This seems inappropriate without documentation to justify setting this number in stone by the MFP. 5.5

Page S-14, Minerals, Proposed Action column, 2nd paragraph: Is it too much to ask that the Mormon Mesa and Beaver Dam Slope ACECs be treated the same as the Kane Springs ACEC, i.e. closed to the operation of the General Mining Law..... 5.6

Page S-1, Minerals, Proposed Action column, 1st paragraph, last line: Limit access to designated roads, no trails. 5.7

CHAPTER 1

Page 1-4, 2nd paragraph, 1st word of 3rd line: Replace "affected" with "afforded" 5.8

Page 1-5, CONSISTENCY WITH OTHER PLANS, 1st paragraph, last line: Ely BLM should be consistent with the other BLM field offices/districts having significant linkages to desert tortoise critical habitat across jurisdictional boundaries. Ely BLM should find consistency on OHV management with Las Vegas BLM and Arizona Strip field offices, not the Dixie and Tonopah offices. The most Ely BLM could do is restrict any OHV event, competitive, non-speed, commercial, or unorganized to occur outside the inactive season, i.e. 15 March to 15 October. The least Ely BLM could do is set maximum speed limits inside tortoise habitat between 25-35 mph or whatever RS2477 designations mandate which are more restrictive. 5.9

Page 1-8, RELATIONSHIPS TO STATUTES AND REGULATIONS: Self explanatory, check the spelling of the section title. 5.10

CHAPTER 2

Bottom Page 2-4, SPECIAL STATUS SPECIES MANAGEMENT, Parity of 3rd and 5th sentences: Confusion as to what is being stated. Is the last sentence, 5th, meant to replace the 3rd sentence, 5.11

Letter 5 Continued

or is BLM looking for direction from the MOG as to how to monitor species other than tortoise, if so why? | 5.11

Page 2-5, FISH & WILDLIFE MANAGEMENT, 2nd paragraph (single line): Was the word "disturbed" meant as opposed to "distributed"? | 5.12

Page 2-8, SPECIAL MANAGEMENT AREAS section: For clarification, begin 1st sentence of 1st paragraph with, "In the context of delisting criteria, the recovery plan recommended"

Page 2-11, SPECIAL STATUS ANIMAL SPECIES/WILDLIFE HABITAT MANAGEMENT section:

- Delete 5th statement, translocation research projects will never be necessary outside of Clark County, Nevada.
- "USFWS-approved" monitoring of special status species other than ESA listed species is inappropriate. Reword to indicate "implementation of special status monitoring through inter-agency cooperation."

Page 2-13, Table 2-1, "PERCENTAGE OF ALLOTMENT IN PROPOSED ACEC" column: The percent figures in the "TOTALS" rows are not averages, they are the "percent of total acreage." | 5.13

Page 2-16, FERAL EQUIDS section: I presume NDOW will be involved in setting AMLs for areas outside of ACECs and the Mormon Mountain HMA? | 5.14

Page 2-18, last sentence on page: Perhaps the sentence should read, "Reclaim surface disturbances from unauthorized uses *with the goal to achieve* pre-disturbance conditions."

Page 2-22:

- Areal Rights-of-Way section: Is *Areal* a word or an acronym? | 5.15
- Last paragraph, last sentence: Clarify what kind and purpose of *corridors*.

Page 2-23, OHV section: See comments above for Page 1-5, CONSISTENCY WITH OTHER PLANS section. | 5.16

Page 2-28, Leasing Stipulations, Item 2, 2nd line: Delete "and trails."

Page 2-29, TRANSPORTATION/PUBLIC ACCESS, 2nd sentence of 2nd statement regarding temporary roads: What is implied by *temporary upgrading*? Will temporary upgrades be obliterated and rehabilitated immediately after the need is satisfied? | 5.17

Bottom of Page 2-30, SEASON OF USE section, last sentence of 1st paragraph: AUMS and ACECS should read AUMs and ACECs. | 5.18

Page 2-32, Table 2-3: Concern that over 1/3 of the allotments have a season of use which is year-round.

Page 2-35, RIGHTS OF WAY MANAGEMENT, Management Direction, Areal rights-of way:

- Again, is *Areal* a word or an acronym? | 5.19

APPENDIX F:

Letter 5 Continued

- Would like to see glossary for species codes | 5.20
- Would like to see footnote #6 placed beside every entry of BRRU2 in all of the tables | 5.21
- Would like clarification if KRPA = KRAMÉ | 5.22
- Using red brome, bur-sage, and creosote as key species suggests these allotments are truly ephemeral in nature. Will a review/revision of key species ever be considered? I realize allotment categorizations will not be modified per the MFP Amendment, but can season of use be modified based on the key species and their composition? | 5.23

Thank you for the opportunity to comment on this land management document for southeastern Nevada. If you have questions or require additional input, please contact the Region III of the Division of Wildlife at (702) 486-5127.

Sincerely,



Cornelio O. Padilla
Supervising Biologist-Habitat

COP:cop

cc: Habitat - Bureau Chief
Game - Las Vegas, Panaca, 3218
State Clearinghouse SA# E1998-128

Letter 6
N-4 State Grazing Board
P.O. Box 461
Panaca, Nevada 89042

July 16, 1998

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, NV 89301-9408

SUBJECT: COMMENTS ON THE DRAFT CALIENTE MANAGEMENT
FRAMEWORK PLAN AMENDMENT AND ENVIRONMENTAL
IMPACT STATEMENT FOR THE MANAGEMENT OF DESERT
TORTOISE HABITAT

Dear Mr. Drais:

The N-4 state Grazing Board would like to comment on the Draft Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of the Desert Tortoise Habitat. This letter will start off with a few general comments and then proceed through some specific concerns with the draft document.

A critique of the document illustrates another attempt to exclude livestock from grazing from public lands. Concepts such as ACEC's (Areas of Critical Environmental Concern) only further constrict and reduce grazing opportunities.

Grazing is compatible with proper resource management, and grazing is a tool that can be used to improve rangelands. These two concepts should not be forgotten.

6.1

The N-4 State Grazing Board is a unit of government that operates under state statute and has great concern for maintaining natural resources in healthy conditions.

Comments on the Sections Concerning:
Livestock Grazing Issues

Livestock grazing will be removed under the preferred alternative based on the assumption that livestock grazing has negative impacts on desert tortoise population recovery. Statements within the document suggest livestock grazing has a major negative impact on the recovery of the desert tortoise. There is a critical flaw in this logic. Several remarks throughout the document support other factors as the primary negative impact on

6.2

Letter 6 Continued

tortoises or suggest that little scientific information exists on tortoise-livestock interactions, for example (*italics are concepts contained in the draft*):

6.2

- 1) Page 1-4, *tortoise number declines are "...more recently attributed to localized predation and disease."*

If tortoise declines are more attributed to predation, why is so much emphasis place on livestock removal? Therefore, we suggest focusing management of the desert tortoise recovery on predation and disease, not livestock removal.

6.3

- 2) Page 3-13, *"Some researchers warn that while populations in the Northeastern Mojave Recovery Unit do not appear to be undergoing major changes in numbers of densities, populations are dangerously low."*

This idea is cited in a personal letter from Brussard. Where are the studies on population dynamics? Elsewhere in the Draft EIS it is stated that limited scientific research exists on population numbers and trends. Many recommendations in the Draft EIS are based on personal opinion, and therefore these opinions should be assessed accordingly - they are opinions, not fact based on research.

6.4

- 3) Page 3-15, *"...85% of mortality among hatchlings and juveniles" is due to ravens, and raven population increases are associated with human activities.*

If human activities (dumps, power poles, etc.) are causing 85% of juvenile losses, then more emphasis should be placed on reducing the human influence or on controlling ravens instead of removing livestock.

6.5

- 4) Page 3-16, *"No incidences of desert tortoise trampling by livestock have been documented in the planning area."*

If no documented cases of cattle trampling exist, then less emphasis should be placed on cattle as a negative impact.

6.6

- 5) Page 4-2, *states directly there is non conclusive information on the effects of livestock grazing on desert tortoise recovery.*

If information on livestock grazing impacts is non conclusive, then how can conclusions be drawn on the impacts of livestock? The discussion in the document continues on 4-2 to state that *professional judgment of biologists in USFWS, BLM, USGS and Smithsonian support the negative impacts of livestock on tortoises*. Who are these biologists and how can they have conclusive views on something in which they have no research? Again, more conjecture and subjectivity instead of research and factual information. If there are biologists who support the negative impacts of livestock grazing, then present their research

6.7

Letter 6 Continued

findings. If no such research exists, then leave personal opinion out of the document.

6.7

6) Page 4-2, it is stated *there is incomplete or unavailable information on trend of tortoise populations, and trend information that does exist was collected near urban areas.*

Urban settings are much different from the rural areas where livestock graze. If decreased tortoise populations are in response to human activities (other than management of grazing), then why is so much emphasis placed on livestock grazing? Again we recommend focusing management of the desert tortoise on eliminating human activities that are detrimental to the tortoise.

6.8

7) Page 4-7, it is stated that *fewer tortoises would experience malnutrition/osteoporosis if livestock were removed.* However, on page 3-13 it is stated that *data is lacking to support the contention of correlation of malnutrition to osteoporosis.*

The above two statements are contradictory - both can not be true. Several times in the document statements are made about the competition for vegetation between tortoises and livestock and that such competition contributes to the decline (though no trend data exists) in tortoise numbers, yet no real data exists to support such claims.

6.9

Information cited in the Draft EIS supporting the claim of the negative impacts of livestock grazing is most often not peer reviewed scientific journals. The following are given as examples of non non-peer reviewed scientific journal citations in the order in which they first appear on page 3-16 through 3-18:

- 1) Oldemeyer 1992, proposal
- 2) Oldemeyer 1994, report
- 3) Hohman and Ohmart 1978, proceedings
- 4) Hohman and Ohmart 1980, report
- 5) Nicholson and Humphreys 1981 proceedings
- 6) Coombs 1979, proceedings
- 7) Berry 1984, report
- 8) Sheppard 1981, proceedings
- 9) Berry and Nicholson 1984, report
- 10) Berry 1984c, report
- 11) Coombs 1977, report
- 12) Nish 1964, Fish and Game publication
- 13) Karl 1981, unpublished report
- 14) Ofidal and Allen 1996, report

6.10

Letter 6 Continued

Where are the scientific peer reviewed studies illustrating the negative impacts of livestock grazing on desert tortoise habitat and recovery? Conclusions on livestock removal must be based on scientific knowledge, not on the less rigorous opinions of biologists. Only a small percentage of citations offered in the Draft EIS supporting negative impacts of livestock grazing are scientific peer reviewed articles.

Bostick 1990 is cited (peer reviewed article) as suggesting livestock and tortoises do not compete for forage. This paper, along with a Resource Concept, Inc. (RCI) unpublished report, is dismissed in the Draft EIS as not being supported by tortoise biologists. Again, who are these biologists? Where are their scientific based studies supporting their beliefs? The language in the Draft EIS regarding livestock grazing impacts is subjective and filled with opinion, and therefore has no reason for inclusion in the document.

The RCI report, prepared on behalf of six counties in four states, reviewed over 850 documents relating to the desert tortoise. The report substantiates much of the concerns we have with the Draft EIS currently under review, including, the premise that most of the literature available on the desert tortoise is non-peer reviewed, and therefore lacks the credibility of scientific peer reviewed literature. Further, that available information on the interaction of livestock and the tortoise is minimal. Finally, that livestock grazing can be conducted in a manner that improves or maintains the ecological condition of a site, and that grazing can maintain or improve vegetation.

6.10

Information presented in the Draft EIS is laden with vague verbiage such as could, less well documented, not well documented, and a variety of such statements. This is not very concrete language when considering the implication that removing livestock grazing will have, a 13.8 % reduction over the planning area according to information in the Draft EIS.

Comments on Statements Contained in:

Environmental Consequences - Preferred Alternative
Socio-Economic Values
From Livestock Grazing Management

1) Page 4-23. The Last paragraph and sentence states "*The loss of each AUM, however, may be considered equivalent to \$4.50 in net ranch increase (profit after all costs) and approximately \$50.00 in ranch capital asset values.*"

This statement may be very bold because the values were set by Forest Service and Bureau of Land Management staff. This was done in 1985. What is the confidence interval for these values? In fact, the confidence interval may be very wide.

6.11

Letter 6 Continued

2) Page 4-23, Where is the study that identified that the loss of 12 livestock permittees on 9 allotments (seven active permittees and seven allotments) will have "...no noticeable reverberation throughout the economy and no noticeable multiplier effect upon purchase and sales, or income and employment.?"

6. 12

This statement sounds once more like an assumption, and likely not based on fact.

3) Page 4-23, The review of the economic impacts within the planning area states that one livestock operator will have a herd reduction as a result of the tortoise habitat recovery plan, and therefore, it would make the operation economically untenable, and result in the abandonment or sale of the business.

Sale is not likely an option if the operation is economically unfeasible without public land. Who would buy the ranch that is a non viable operation? Is it acceptable to remove the livelihood of a business just because it is only one rancher? The individual is important. The loss of a single family ranch may not appear significant (unless you are that person), but the cumulative loss of small ranchers in the West is atrocious. This draft management plan is just one more example of an attempt to remove livestock from public lands without just cause.

6. 13

Comments on Statements Contained in:

Environmental Consequences - Preferred Alternative

Socio-Economic Values

From Land Management

1) Page 4-24. The last sentence reads "*The cost associated with a power transmission line, are not likely to be nearly as expensive as the costs of planning and analysis and the additional mileage that might be involved, for alternative routes.*"

Where is the data to back up this statement? This is just another example of statements presented in the document with no source for their origin or reliability. Therefore, statements made without support appear not only in sections relating to livestock but in other sections as well.

6. 14

Additional comments on the economic impacts. Some of the dollar values presented in the economic statements may be too high. When faced with reduction in AUM's will the remaining AUM's stay as high in cash market value? These values probably will not stay as high and could fall. Buyers may look at a very short pay back period on allotments if tortoises do not show fast recovery. If recovery is slow, then values would be discounted heavily in the early time periods. Also these programs add to uncertainty and risk for producers that could lower capitalized values of land. This loss in capitalized value would also mean lower property tax revenues to local governments and therefore decreased revenues to local governments.

6. 15

Letter 6 Continued

Comments on Statements Contained in: *Environmental Consequences - Alternative C*

- 1) Page 4-66, under I, first it is stated that *the tortoise population is stable, but goes on to say populations may not remain stable, may increase, or may decline.*

This statement is made under the other alternatives as well. How is this statement made with no trend studies to support such a claim and no research to show how current impacts influence tortoise populations? Which is it? Will populations remain stable, increase, or decline? All three can not be true.

6.16

Comments on Statements Contained in: *Cumulative Impacts*

- 1) Page 4-74, as elsewhere in the Draft EIS, it states that population numbers are unknown. It is not possible for population numbers be unknown, trend analysis incomplete, and then make recommendations on population trends and numbers, as has been done in this document.

- 2) Page 4-76, states that at this time there are no data showing that continued livestock grazing is compatible with recovery of the desert tortoise. There is also little if any scientific data showing that continued livestock grazing is incompatible with recovery of the desert tortoise. Why isn't the lack of scientific data also elaborated upon?

6.17

- 3) Page 4-77, states that the preponderance of scientific evidence indicates that livestock grazing can have a number of different negative impacts to tortoise and its habitat. Yet in the paragraph following this previous statement it is established that evidence is circumstantial that grazing is a major problem for the tortoise. These two statements are contradictory. One either has scientific evidence or they do not. Circumstantial evidence is not scientific evidence.

- 4) Page 4-98, We summed up the total acreage under tortoise recovery and come up with 2,324,300 acres. While the planning area covered in this Draft EIS recovery plan may not have a large impact on the livestock industry, it is the cumulative impacts of all habitat recovery efforts that will be felt by the livestock industry. The cumulative impact should not be overlooked.

6.18

Our primary concern with this document is the extreme emphasis placed on livestock grazing as a negative impact on the recovery of the desert tortoise. Statements in the document relating to the negative impacts of livestock grazing, for the most part, are without substantial scientific backing. Livestock grazing is an important contributor to the social and economic stability of Lincoln County. Therefore, considerable thought should be given before any livestock reductions are implemented. Within the document there are suggestions that the reductions in grazing will have only minor economic impacts for the area. The problem is that there are many livestock reductions from assorted management

6.19

6.20

Letter 6 Continued

approaches, whether at the allotment level or within management areas such as ACEC. It is these cumulative impacts that eat away at the livestock industry, and associated rural economies. We adamantly oppose livestock reductions when there is no resource or environmental reason to support reductions. Therefore, we recommend that livestock grazing not be excluded from the planning area or from those ACEC's within the planning area.

6.21

Sincerely,



Merlin Flake, Chairman

N-4 Nevada State Grazing Board

Letter 7

LIONEL SAWYER & COLLINS

ATTORNEYS AT LAW

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**VIA FACSIMILE AND
CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, Nevada 89301-9408

Re: Draft Caliente Management Framework Plan Amendment and Environmental Impact
Statement for the Management of Desert Tortoise Habitat ("MFP Amendment")

Dear Mr. Drais:

We represent Harrich Investments, LLC, a Nevada limited liability company ("Harrich"), and Coyote Springs Investment, LLC, a Nevada limited liability company ("CSI"). CSI purchased the fee lands described on Exhibit A attached hereto ("Fee Lands") from Aerojet-General Corporation ("Aerojet") on May 27, 1998. Concurrently with the transfer of Fee Lands to CSI, Aerojet assigned its interest in that certain Land Lease Agreement dated July 13 and 14, 1988, between Aerojet, as lessee, and the United States of America, as lessor (Bureau of Land Management ("BLM") Serial File N-48281 ("Lease")), by which the lands described on Exhibit B attached hereto were leased to Aerojet ("Leased Lands"), which assignment was approved by the BLM by Decision dated November 15, 1996.

The following comments memorialize oral comments that representatives of Harrich and CSI have previously made to BLM representatives regarding the MFP Amendment (as defined below).

Harrich and CSI are affiliated entities. Harrich and CSI intend to consolidate their interest in the Fee Lands and the Leased Lands in CSI. CSI intends to develop both the Fee and Leased Lands.

CDS/12683-0003
061198/com-mfp.lt/03

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Bureau of Land Management
August 11, 1998
Page 2

As you know, the Leased Lands are an island surrounded by the Fee Lands. The Fee Lands are, in turn, an island surround by federal land managed by the BLM. This configuration creates potential problems for private development and federal land management.

The MFP Amendment is being prepared to create a desert tortoise habitat conservation plan covering federal lands in Lincoln County, Nevada, situated below 4,000 feet in elevation. The Fee Lands and Leased Lands are located in Lincoln County and Clark County, Nevada. The Leased Lands are located in both counties in approximately equal proportions. See Exhibit C attached hereto.

7.1

The MFP Amendment discusses four alternate management plans for the Caliente Resource Area ("CRA"). However, the following comments regarding each alternative are generally limited to the Fee Lands and Leased Lands area.

We cannot support any of the four alternatives as proposed, except as discussed below. The MFP Amendment proposes (i) retaining the Leased Lands in federal ownership, (ii) acquiring the Fee Lands (if available for acquisition), and (iii) surrounding the Fee Lands with either ACECs or DWMA's. Although the Leased Lands are not expressly included within an ACEC or DWMA it appears BLM intends to manage such lands in the same manner as if they were expressly classified within such designated areas.

The land disposal classifications, the land acquisition proposals, and the proposed ACECs/DWMA's negatively impact the development of the Fee Lands and Leased Lands. Each of the alternatives has a potentially significant adverse impact on development of private lands within Lincoln County, which, in turn, adversely impacts the county's tax base and its ability to create or maintain jobs for its residents.

In principal, we support the Proposed Alternative (as defined in the MFP Amendment). However, we ask the following changes be made to the proposed alternative.

1. Classify all of the Leased Lands for disposal by either sale or exchange. Such classification will allow for consolidation of the private and federal lands in the area. Consolidation should increase BLM's ability to effectively manage the federal lands while providing the opportunity for orderly development of the private lands.

7.2

2. Modify the area covered by the MFP Amendment and EIS to include that portion of the Fee Lands and Leased Lands located in Clark County, Nevada, which are covered by the Las Vegas Resource Management Plan and Final Environmental Impact Statement ("RMP"). Including these lands within the MFP Amendment Process should provide a basis for amending the RMP, as appropriate, resulting in consistent goals and management plans for a single block of land that just happens to be located in two counties and, therefore, subject to management goals and plans of two different District BLM offices.

7.3

3. Modify the lands covered by the EIS to include all undisturbed private lands in Lincoln County located within the Planning Area for the BLM's MFP Amendment, and allow Lincoln County to participate in the process as a cooperating agency. Such cooperation should provide the basis

7.4

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Page 3

for developing a habitat conservation plan covering private lands which is consistent with similar plans covering federal lands and permit the implementation of consistent management practices for both federal and private lands.

7.4

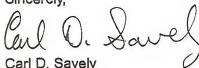
4. Consider mitigation measures which will allow all of the Leased Lands to be transferred to private ownership unencumbered by the use restrictions set forth in the Lease or any newly created habitat restrictions being imposed on private land uses, except as may be imposed under the Lincoln County Desert Tortoise Habitat Conservation Plan which is being developed at this time.

7.5

CSI is committed to work with the BLM and Lincoln County in striving for land ownership consolidation, economic development and habitat conservation, including, without limitation, desert tortoise habitat. CSI intends to incorporate multi-species habitat conservation and improvement projects as integral parts of its development plans for the Fee Lands and the Leased Lands.

Thank you for the opportunity to comment on the MFP Amendment and its impact on our activities. Please do not hesitate to contact me if you have any questions, need additional information, or would like to discuss these comments.

Sincerely,



Carl D. Savely

CDS:kat
Attachments

cc: Gene A. Kolkman (via facsimile & certified mail; w/attachments)
Gary Derck (w/attachments)
Ed Wright (w/attachments)

Letter 7 Continued

Exhibit A

Legal Description of Fee Lands

Township 13 South, Range 63 East, (Clark County, Nevada):

Section 1, Lot One (1); the East Half (E ½) of Lot Two (2); the East Half (E ½) of the Southwest Quarter (SW ¼) of the Northeast Quarter (NE ¼); Southeast Quarter (SE ¼) of the Northeast Quarter (NE ¼); East Half (E ½) of the West Half (W ½) of the Southeast Quarter (SE ¼); East Half (E ½) of the Southeast Quarter (SE ¼);

Section 9, all;

Section 16, all;

Sections 3, 10, 15, that portion lying Westerly of the Eastern boundary of the transmission corridor, that boundary being 1 ½ miles from the Centerline of U.S. Highway 93.

Section 22, that portion lying Westerly of the Eastern boundary of the transmission corridor, that boundary being 1 ½ miles from the Centerline of U.S. Highway 93; and that portion lying Northerly to a boundary ½ mile from the Centerline of State Highway 168:

Sections 23 and 24, that portion lying Northerly to a boundary ½ mile from the Centerline of State Highway 168.

That portion of Section 4 lying Westerly of the Easterly boundary of the transmission corridor, that boundary being 1 ½ miles Easterly of the Centerline of U.S. Highway 93.

That portion of Section 21 lying Easterly of U.S. Highway 93 and Northerly of the Centerline of State Highway 168.

That portion of Sections 25 and 26, lying Northerly of the Centerline of State Highway 168.

That portion of Section 20 lying Easterly of the Centerline of U.S. Highway 93, and Northerly of the Centerline of State Highway No. 168.

That portion of Sections 5, 8, and 17 lying Easterly of the Centerline of U.S. Highway 93.

Township 13 South, Range 64 East, (Clark County, Nevada):

Section 6, the West Half (W ½);

Letter 7 Continued

Exhibit A

Section 7, the West Half (W ½) and the West Half (W ½) of the Southeast Quarter (SE 1/4);

Section 18, all

Section 19, all

Section 30, that portion lying Northerly of the Centerline of State Highway No. 168.

Township 11 South, Range 63 East, (Lincoln County, Nevada):

Section 13, South Half (S ½);

Section 20, all;

Section 21, all;

Section 22, all;

Section 23, all;

Section 24, all;

Section 25, all;

Section 26, all;

Section 27, all;

Section 28, all;

Section 29, all;

Section 32, all;

Section 33, all;

Section 34, all;

Section 35, all;

Section 36, West Half (W ½).

That portion of Sections 19, 30 and 31 lying Easterly of the Westerly boundary of the transmission corridor, that boundary being ½ mile Easterly of the Centerline of U.S. Highway 93.

Township 12 South, Range 63 East, (Lincoln County, Nevada):

Section 1, Lots Three (3), Four (4), South Half (S ½) of the Northwest Quarter (NW 1/4) and the Southwest Quarter (SW 1/4);

Section 2, Lots One (1) thru Four (4), South Half (S ½) of the North Half (N ½) and the South Half (S ½);

Section 3, Lots One (1) thru Four (4), South Half (S ½) of the North Half (N ½) and the South Half (S ½);

Letter 7 Continued

Exhibit A

Section 6, that portion lying between the Centerline of U.S. Highway 93 and the Western boundary of the transmission corridor, that boundary being $\frac{1}{2}$ mile Easterly of the Centerline of U.S. Highway 93, excluding that portion of the North Half (N $\frac{1}{2}$) of the North Half (N $\frac{1}{2}$) lying between the Centerline of U.S. Highway 93 and the Western boundary of the transmission corridor; and that portion lying Easterly of the Western boundary of the transmission corridor, that boundary being $\frac{1}{2}$ mile Easterly of the Centerline of U.S. Highway 93;

Sections 7, 18, 19, 29, 30, 32 all lying Easterly of the Centerline of U.S. Highway 93;

Sections 5, 9, 16, 21, 28, 33, that portion lying Westerly of the Eastern boundary of the transmission corridor, that boundary being 1 $\frac{1}{2}$ miles from the Centerline of U.S. Highway 93.

Section 8, all;

Section 10, all;

Section 11, all;

Section 12, West Half (W $\frac{1}{2}$) of the West Half (W $\frac{1}{2}$);

Section 13, West Half (W $\frac{1}{2}$),

Section 14, all;

Section 17, all;

Section 20, all;

Section 23, North Half (N $\frac{1}{2}$) and the Southeast Quarter (SE $\frac{1}{4}$);

Section 24, West Half (W $\frac{1}{2}$);

Section 25, all;

Section 26, East Half (E $\frac{1}{2}$);

Section 36, all;

Township 12 South, Range 64 East. (Lincoln County, Nevada):

Section 31, the West Half (W $\frac{1}{2}$) of the Southwest Quarter (SW $\frac{1}{4}$).

Letter 7 Continued

Exhibit B

Legal Description of Leased Lands

A leasehold estate in and to the following:

Mount Diablo Meridian Nevada:

Township 11 South, Range 63 East, (Lincoln County, Nevada):

Sections 19, 30 and 31, that portion lying Easterly of the Centerline of U.S. Highway 93 and the Western boundary of the transmission corridor, that boundary being $\frac{1}{2}$ mile Easterly from the Centerline of U.S. Highway 93.

Township 12 South, Range 63, (Lincoln County Nevada):

Section 4, all

Sections 5, 9, 16, 21, 28, 33, that portion lying Easterly of the Eastern boundary of the transmission corridor, that boundary being 1 $\frac{1}{2}$ miles Easterly of the Centerline of U.S. Highway 93.

The North Half (N $\frac{1}{2}$) of the North Half (N $\frac{1}{2}$) of Section 6 lying Easterly of the Centerline of U.S. 93 and Westerly of the Westerly boundary of the transmission corridor, that boundary being $\frac{1}{2}$ mile Easterly of the Centerline of U.S. Highway 93.

Section 15, all;

Section 22, all;

Section 23, Southwest Quarter (SW $\frac{1}{4}$);

Section 26, West Half (W $\frac{1}{2}$);

Section 27, all;

Section 34, all;

Section 35, all.

Township 13 South, Range 63 East, (Clark County, Nevada).

Section 1, West Half (W $\frac{1}{2}$) of the West Half (W $\frac{1}{2}$) of the East Half (E $\frac{1}{2}$), and the West Half (W $\frac{1}{2}$);

Section 2, all;

Sections 3, 4, 10 and 15, that portion lying Easterly of the eastern boundary of the transmission corridor, that boundary being 1 $\frac{1}{2}$ miles from the Centerline of U.S. Highway 93;

Section 11, all;

Section 12, all;

Section 13, all;

Section 14, all;

Letter 7 Continued

Exhibit B

Section 22, that portion lying Northerly of a boundary $\frac{1}{2}$ mile from the Centerline of State Highway 168 and Easterly of the eastern boundary of the transmission corridor, that boundary being 1 $\frac{1}{2}$ miles Easterly of the Centerline of U.S. Highway 93;

Sections 23 and 24, that portion lying Northerly of a boundary $\frac{1}{2}$ mile from the Centerline of State Highway 168.

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Letter 7 Continued

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Letter 8

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, NV. 89301 - 9408

Re: Caliente MFP Amendment and EIS for Management of Desert Tortoise Habitat

Gene Drais,

Many of my ancestors helped settle the Southern part of Nevada. I am currently living in Beatty, Nye County, Nevada. I was born in Henderson, Clark County, Nv. I lived there with my family, until I was 12 years of age. We moved to Alamo, Lincoln County, Nv. where I graduated from Pahrnanagat Valley High School. I attended the University of Nevada - Reno. I grew up in this part of the state. We hunted, trapped, fished, hiked, explored, looked at artifacts, and enjoyed the scenery in this area. I state this so you will know that I have a keen interest in the State of Nevada and the areas under study by the Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat.

I would also like to state that I am adamantly opposed to any government interference in the natural processes of the land of which we Human Beings are a part. I do not like the changes the BLM has implemented in the FLPMA. I do not believe the BLM is or should become a law enforcement agency. I believe the States with their land rights can administer the lands more effectively than the BLM or any other Federal Agency. I think the Wild Horse and Burro Act is a prime example of how interference can upset a process that already works. The ranchers were able to control the number of horses and derive an income in the process. Now we expend tax dollars to try to control herds that are completely out of control.

I suppose this is enough rambling and I should get back to the document at hand. I think a desert Tortoise (Turtle) is an interesting creature and worth study. I do not believe that any person or corporation should be required to change their lifestyle to accommodate any species. We should take human interests first and then if it is possible accommodate other species.

I would like to Point out some of the problems I see with the proposal.

8.1

The cover letter shows an incorrect date for a public comment meeting in Caliente.

The Summary section under Social and Economic Impacts states that "No noticeable adverse economic effects are projected for the Lincoln County Economy." Yet the section prior to this one states that some mineral restrictions would apply. The Question and answer section also states that land in Kane Springs and ACEC's will be closed to mineral entry. Page 3 - 29 Salable Minerals also outlines the potential of sand and gravel in the area. These statements are at odds since the potential for sand and gravel pits is great. This coupled with the fact that the demand for these products has increased in Las Vegas and already made it economical for one pit to operate in the Coyote Springs area. I think turtle protection has already had a negative impact the

8.2

8.3

Letter 8 Continued

business and stands to totally curtail it in this area in the future. I am a Mining Engineer and very leery about the effects of any federal policies on any type of mining. I also have interest in Opal claims in the Meadow Valley Mountain Range. I believe page 4 - 3 grossly underestimate the Mineral development scenarios for Lincoln County. I believe Lincoln County stands to lose a great deal of future income from the impact of this plan. I am worried about future impacts of these and other regulations on the feasibility of mining as well as other outdoor activities.

8.4

The next part of the document that worries me is the Desert Tortoise Studies. The question and answer section states "Desert Tortoise Populations are only capable of very slow growth. Therefore delisting criteria state that if a desert tortoise population remains stationary or increases over a 25 year period (one desert tortoise generation) then delisting may be warranted." The same statement is made at the top of page 1-3 criterion 1. The current survey techniques and time frame are both inadequate to determine this. The next to the last question in the question and answer section verifies this. Pages 3 - 12 and 3 - 13 study methods and conclusions are also applicable. The last sentence on 3 - 12 states "Only a limited number of permanent study plots have multiple years of observation." Page 3 - 13 third paragraph last sentence states "Some researchers warn ... do not appear to be undergoing major changes in numbers or densities in most places, population levels are dangerously low." These two sentences tell me that an inadequate study has been done and researchers have formed opinions without adequate facts (see underlined parts) The dangerously low seems to be a scare tactic opinion also. The next paragraph contains a sentence that states "The largest decrease occurred in the Desert Tortoise Natural Area and adjacent areas in California." Are we to assume from this that protecting and studying a turtle kills it or are other factors involved? Page 3 - 11 continues this opinion trend with the last to paragraphs. Second to last paragraph, "concern has increased," second sentence, "Lukenbach stated," last sentence "Berry asserts ..." Last paragraph, "Berry also speculated," last sentence, "there is little reliable data prior to the 1970's to indicate how densities of current populations may differ from historical densities." Once again these sentences indicate scare tactic opinions meant to present biased views. The last quote indicates that the 25 year life cycle has barely been met on any study data and only inconclusive data is available at best. Page 4 - 74 last paragraph, also supports this lack of evidence. Please give us facts and not opinions to support the views of some extremists. If we ever hope to delist the desert tortoise a reliable baseline is necessary and that does not currently exist. The funds do not currently exist to establish one and the hope of obtaining fund in the future is dim at best. The BLM is currently limited in its ability to patrol, improve and administer lands and programs under its control. This program is just another unfunded policy waiting to soak up tax dollars in unnecessary ways. The only mention of funding is page 4 - 1 Assumptions. We are to assume magical fund will appear!

8.5

8.6

Page 4 - 5 last paragraph has a very useful proposal, coordination with federal and state departments to decrease predation. Take this one step further and involve the public. We would rather shoot, trap, and poison predators than give up our outdoor activities. Before ranching and trapping were made unprofitable by regulation predator numbers were lower. Now the ranchers have been pushed off their lands and trapping is no longer profitable. This has led to an increase in predator numbers. The NDOW has taken the first step in this by creating a season on one of these winged black predators. If we know that raven control can reduce hatchling and juvenile tortoise mortalities by as much as 85% then lets put this fact to work. Kill some ravens, don't

8.7

Letter 8 Continued

close our lands. Another federal policy stands in the way of this the Federal Migratory Bird Act. Another law interfering with what really works.

8.7

Another aspect of this proposal that I object to is the way populated areas continue to expand at almost any cost to the environment. Yet unpopulated areas are being asked to take the brunt of all the extremists way of viewing the environment. Las Vegas takes an acre of land and pays \$647 as a mitigation fee (page 3 - 33 second paragraph). Land swaps are done for unpopulated land to allow Las Vegas to Expand. All the while large corporations get rich while rural area residents suffer economic losses. An equitable plan should be allowed to reign throughout the state. If I can destroy habitat in The Las Vegas Valley for \$647 an acre then I should be able to destroy land any where else in the state for the same or a lesser cost depending on surrounding impacts. Where is a reclamation plan for the Las Vegas Valley? How much is the reclamation bond on a shopping center or casino? We have inequitable laws and regulations. Don't try to tell a rancher or a miner that there is no significant economic impact on destroying his livelihood.

8.8

I request that "Alternative C" no action be the plan of choice. That adequate funding be obtained for meaningful tortoise studies that can be used to base an action on. That equitable plans be established in the state. That USFWS section seven regulations be a guideline in the interim. That the BLM and other federal agencies use their resources and funding to provide economic development and progress for the Human Species and look at all other species as a secondary consideration not primary. I believe the Desert Tortoise was here before we entered this country and that it will be here long after we have gone. It is a desert survivor.

W. Layne Weber

W. Layne Weber *12 Aug 1998*
P. O. Box 625
Beatty, NV. 89003
1-702-553-2705

Letter 9



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105
AUG 14 1996

Gene A Kolkman, District Manager
Bureau of Land Management Ely District
HC 33 Box 33500
Ely, NV 89301-9408

Dear Mr. Kolkman:

The United States Environmental Protection Agency (EPA) has reviewed the **Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat (DEIS)**. Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

In the DEIS, BLM identifies three action alternatives for implementing site specific actions necessary to meet the goals identified in the Desert Tortoise Recovery Plan. A no action alternative is also analyzed, as required by NEPA. The proposed action, if implemented, would designate three Areas of Critical Environmental Concern (ACECs) totaling 212,500 acres; implement management prescriptions for desert tortoise habitat inside and outside of the ACECs; ensure BLM participation in a USFWS-developed environmental education program; and implement a USFWS-approved interagency monitoring program. Alternative A would also designate three ACECs, but with fewer prescriptions on grazing, mining, and recreation activities. Alternative B would designate two Desert Wildlife Management Areas (DWMAs) totaling 307,000 acres. BLM has identified the proposed action as the preferred alternative.

EPA commends BLM for evaluating strategies to protect desert tortoise habitat on the lands it manages. We also commend BLM for its excellent analysis of cumulative impacts. However, we have concerns about the range of alternatives selected for analysis in the DEIS. Although BLM's preferred alternative seems to provide a higher level of protection than the other two action alternatives analyzed in the DEIS, we are concerned about BLM's decision not to analyze an alternative which would place 100% of critical habitat designated by the Fish and Wildlife Service into protected status. We are also concerned that two of the action alternatives do not appear to meet project purpose and need.

9.1

9.2

EPA recommends that BLM consider an alternative which would place 100% of the designated critical habitat into one or more ACECs or DWMAs, with strict prescriptions on cattle grazing, mining, and OHV use. In our opinion, inclusion of such an alternative in the Final EIS prepared for the action would serve to clarify important issues such as grazing, mineral entry, and recreation management, consistent with NEPA's primary goal of improving agency decisionmaking.

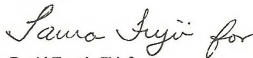
9.3

Letter 9 Continued

We have assigned a rating of EC-2 (Environmental Concerns--Insufficient Information) to this document (please see the enclosed document describing EPA's rating system). This rating reflects our evaluation of the project impacts associated with the preferred alternative and the overall quality of the NEPA document. However, please note that we have significant environmental concerns with Alternatives A and B, and strongly recommend against selecting either of these alternatives in the Record of Decision for this action.

We appreciate the opportunity to review this DEIS. If you have any questions, please call Leonidas Payne of my staff at (415) 744-1571.

Sincerely,

A handwritten signature in cursive script that reads "Laura Luján for".

David Farrel, Chief
Federal Activities Office

cc: Michael Burrows, U.S. Fish and Wildlife Service, Las Vegas

Letter 9 Continued

Specific Comments

1. The "Purpose and Need" statement developed for this action makes no reference to preservation of traditional "multiple use" activities such as grazing, mining, and OHV use, yet the document includes numerous statements which indicate that BLM considers preservation of these activities to be an integral part of the action. In particular, we note BLM's statement on Page 2-3 that an alternative proposed during scoping was not analyzed because it "would not meet BLM's mandate for multiple use management of the public lands." EPA disagrees that BLM's "multiple use" mandate requires that traditional multiple use activities be accommodated in designing a land management strategy for particular parcels. In some cases, such as when critical habitat has been designated to assist in the recovery of a threatened or endangered species, it may be necessary to limit public use to those activities that are compatible with the recovery of the species in question. For example, the Recovery Plan specifically mentions non-consumptive recreation activities, such as hiking, casual horseback riding, and nature photography, as being compatible with the objectives of desert tortoise recovery (see page 4-11).

9.4

If, as the document seems to suggest, BLM considers the goal of preserving traditional multiple use activities to be equivalent to the goal of implementing recommendations of the Desert Tortoise Recovery Plan, the "Purpose and Need" statement should be changed to reflect BLM's actual goals.

2. Alternatives A and B do not appear to be consistent with project purpose and need as currently defined. Pages 4-35 and 4-36 of the DEIS outline deficiencies in Alternative A, stating that tortoise population trends "would most likely decrease in the long term" because the alternative fails to adequately address the nutritional needs of hatchlings and juveniles, and expressing concern that the population growth rate has the potential to decline below a lambda of 1.0. Concerning Alternative B, Page 4-54 includes language which implies that lack of connectivity with protected areas in adjoining planning units may result in three separate DWMA's which "may not be large enough to contain viable populations of a minimum density of 10 adult tortoise per square mile." These deficiencies make it unlikely that either alternative will meet the recovery goals embodied in the Desert Tortoise Recovery Plan. In both cases, it may have been appropriate to give a brief description of the alternative in the section entitled "Alternatives Considered but Eliminated from Detailed Analysis" rather than include the complete analysis in the DEIS.

9.5

3. EPA requests clarification of the methodology which BLM used in setting the boundaries for the proposed Beaver Dam Slope ACEC, specifically its decision to draw the ACEC boundary at the northern boundary of the Sand Hollow/Beacon allotments. The maps provided at pages 2-10 and 2-14 clearly show that critical habitat extends into the Snow Springs and Terry allotments. The EIS should include a complete discussion of BLM's reasons for allowing grazing to continue in critical habitat within the Snow Springs and Terry allotments.

9.6

4. In light of the significant threats which face the desert tortoise as a species, it is our opinion that BLM should develop and analyze a "maximum protection" alternative which attempts to minimize "take" of desert tortoises by providing full protection to 100% of the critical habitat

9.7

Letter 9 Continued

designated by the Fish and Wildlife Service. This can be done through the creation of one or more ACECs or DWMA's that include 100% of the area designated as critical habitat. Such an alternative would include strict prescriptions on cattle grazing, mining, and OHV use within the protected ACECs or DWMA's, coupled with additional management prescriptions on cattle grazing, mining, and OHV use (similar to those proposed for the ACECs in the proposed action) on suitable desert tortoise habitat outside the area designated as critical habitat. In our opinion, analysis of a "maximum protection" alternative is necessary to frame important issues for commenting agencies and the public, and is consistent with NEPA's purpose to improve agency decisionmaking. Please consult the responses to questions 1(a) and 1(b) in CEQ's "40 Questions" document for relevant guidance on this topic. In the alternative, we request that BLM state its reasons why it believes analysis of a "maximum protection" alternative is inconsistent with the spirit and intent of NEPA, and CEQ guidance regarding the need to analyze a reasonable range of alternatives.

Letter 9 Continued

NEPA's Forty Most Asked Questions, Page 1

1a. Range of Alternatives.. What is meant by "range of alternatives" as referred to in Sec. 1505.1(e)?¹

- A. The phrase "range of alternatives" refers to the alternatives discussed in environmental documents. It includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them. Section 1502.14. A decisionmaker must not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents. Moreover, a decisionmaker must, in fact, consider all the alternatives discussed in an EIS. Section 1505.1(e).

1b. How many alternatives have to be discussed when there is an infinite number of possible alternatives?

- A. For some proposals there may exist a very large or even an infinite number of possible reasonable alternatives. For example, a proposal to designate wilderness areas within a National Forest could be said to involve an infinite number of alternatives from 0 to 100 percent of the forest. When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90, or 100 percent of the Forest to wilderness. What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case.

2a. Alternatives Outside the Capability of Applicant or Jurisdiction of Agency. If an EIS is prepared in connection with an application for a permit or other federal approval, must the EIS rigorously analyze and discuss alternatives that are outside the capability of the applicant or can it be limited to reasonable alternatives that can be carried out by the applicant?

- A. Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.

2b. Must the EIS analyze alternatives outside the jurisdiction or capability of the agency or beyond what Congress has authorized?

- A. An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law

Letter 10



United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Reston, Virginia 22092

In Reply Refer To:

Mail Stop 423

MEMORANDUM

FJU 27 1998

To: Gene L. Drais, Project Manager
Bureau of Land Management

From: James F. Devine *James F. Devine*
Senior Advisor for Science Applications

Subject: Review of the Draft Environmental Impact Statement for the Caliente Management Framework Plan Amendment, Lincoln County, Nevada

The U.S. Geological Survey has reviewed the subject document and found that the actions it proposes are appropriate for the protection of the desert tortoise. Therefore, our comments agree with the proposed actions and reinforce the priority and importance of those actions.

General comments:

The following comments are focused on the portions of the document from page 2-8 through page 2-36.

Removing grazing by livestock, including feral horses and burros, restricting mineral extraction activities and restricting other multiple uses in the Areas of Critical Environmental Concern (ACECs) will improve the seral stages of native plant communities. This would improve the condition of perennial grasses that serve as food for the tortoises. These grasses "green up" with very little moisture and are important as food to the tortoises during years of drought when other plants do not germinate.

Fragmentation of desert tortoise habitat diminishes its value. Land ownership and use patterns that achieve continuity of habitat and connectivity among habitat units are needed to realize the greatest value of these lands for tortoises.

The land identified as formerly conveyed to Aerojet Corporation, comprising about 25,000 acres, is now in other private ownership. This tract lying between U.S. Highway 93 and Mormon Mountain ACEC is needed to provide the connectivity of desert tortoise habitat among the ACECs. It is important that the Bureau of Land Management (BLM) follow through with their intent stated in the Acquisition section on page 2-18, "acquire lands legislatively transferred to private holders. . . ." Adding this land to the Kane Springs ACEC would greatly enhance the spatial design of the habitat for desert tortoises.

Letter 10 Continued

2

Control of predation, especially by ravens on young tortoises, would improve the likelihood that the tortoise population will survive. Management of local trash dumps to reduce the amount of garbage available as food to ravens would help control raven numbers. This and other raven population controls are needed.

10.2

Restriction of off highway vehicles, especially at high speeds, on the tortoise habitat areas would reduce the killing of tortoises and destruction of the vegetation they need.

10.3

If these actions are implemented, it is unlikely that the full protection of the Endangered Species Act for tortoises in this area will be necessary. However, continued monitoring of the populations and improvement of the methods used for monitoring are needed to insure that protection of the species is being accomplished.

10.4

Thank you for the opportunity to contribute to this EIS.

Copy To: Director, Office of Environmental Policy and Compliance
 District Chief, Water Resources Division, Nevada

MESQUITE

Letter 11

August 4, 1998 P R O P E R T I E S

Gene L. Kolkman
District Manager
Bureau of Land Management Ely District
702 North Industrial
Ely, Nevada 89301

Dear Gene,

Inclosed is a map of the proposed location for the "**Mesquite - Caliente**" Road. This alignment reflects the route supported by the City of Mesquite, and Lincoln County.

111

Please contact me if you have any questions.

Sincerely,



T. Lance Leavitt

Cc: Commissioner Ed Wright
Lincoln Co.

Mayor Ken Carter
City of Mesquite

Mike Baughman
Intertech Services Corporation



QUADSTATE

County Government Coalition

State of Arizona
County of Mohave

August 18, 1998

State of California
County of Imperial
County of Kern
County of San Bernardino

Mr. Gene A. Kolkman, District Manager
Bureau of Land Management

State of Nevada
County of Lincoln

Ely District Office
HC 33 Box 33500
Ely, NV 89301-9408

State of Utah
County of Washington

Dear Mr. Kolkman:

The QuadState County Government Coalition (QSCGC) hereby protests the adoption of the Proposed Action as presented in the Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat as presented in the Draft document dated April 16, 1998. (We were informed by your office that the comment period was extended 14 days to August 28, 1998, and thus we believe these comments are submitted in a timely manner. If, for any reason they are not, please advise.)

12.1

The Coalition is a consortium of six county governments within four states, covering the extent of the officially designated Critical Habitat of the desert tortoise (*Gopherus agassizii*). The Coalition includes Lincoln County, Nevada. These comments and protest are submitted in addition to any comments that the County, its Public Land Commission, or individual members of the County Commission may also submit.

The Coalition was formally organized February 13, 1998, and thus was not able to participate in land use planning activities in the region prior to that date.

We recommend adoption of the No Action Alternative (Alternative C) unless there is specific data to show that livestock and mining have, within Lincoln County, had a deleterious effect on tortoise habitat and populations. We do not believe there is a sound scientific basis for the Proposed Action, and that where there has been past adjustments to uses (e.g. cessation of sheep grazing) it is not shown that either habitat or tortoise populations have responded positively.

12.2

We believe the Draft plan is filled with too many judgmental, inflammatory, and non-science-based conjectures. For example, in Alternatives descriptions, page ii, the statement appears: "It would be unlikely that recovery of the desert tortoise ... would occur because this alternative would not likely meet the nutritional needs of hatchlings and juveniles." This cannot be shown as factual, and with tortoise populations unstated, can BLM and FWS show that 288 pounds of forage per acre is inadequate to meet local tortoise nutritional needs for the estimated population?

12.3

12.4

Further examples are contained in descriptions of the Social Setting, Attitude and Values section, page 3-31 *et seq.* We believe that expressed polarization is unnecessary. Many ranchers, and others, in the region will accept reasonable

12.5

Letter 12 Continued

Comments on Draft Caliente MFP Amendment
August 18, 1998
From: QuadState County Government Coalition

Page 2

management proposals and alternatives that do not eliminate their livelihoods. The Draft Plan, in effect, raises a "Closed for Business" sign over Lincoln County. The Draft plan except in Alternative C (No Action), does not raise a prospect for managed use, only elimination of it. Or it proposes elimination of use at a critical season when there are no alternative ranges.

12.5

12.6

The Draft Plan seems predicated upon implementation of the Recovery Plan. We find that the nuance of difference between implementing an ACEC and a DWMA to be cosmetic. While the Recovery Plan is "recommendations" we find that BLM is proceeding to implement them without "ground-truthing" them for this specific area. Before uses are eliminated or severely restricted, BLM must make a formal determination that implementing Recovery Plan recommendations will have positive effects. Further, it appears that while disease is a basic problem in the decline of tortoises within the four States, Lincoln County may be disease-free. Why then, is it necessary to advocate such severe restrictions upon land uses? Can it be shown that land use restrictions, or elimination of uses, will prevent the introduction of disease to this area?

12.7

12.8

We presume the recommendations on wilderness suitability were contained in the earlier MFP. Map 2-1 shows only WSAs, and not those portions recommended as suitable. It would be significantly improved if it did, thus not having to find the reference, unmapped, on page 3-26 as to what is suitable and the extent to which this form of preserve management will be applied to tortoise habitat.

12.9

We object to the proposal to withdraw any areas from the General Mining Laws, and specifically the proposed Kane Springs ACEC. There is no showing that past mining has had a deleterious effect upon tortoise populations. If mining did occur, why couldn't its effects and impacts be managed, mitigated and rehabilitated under current regulation. The removal of prospective mining, whatever its potential, removes a significant opportunity for rural regions to enhance their economic well-being and employment.

12.10

We were pleased to note that local government considerations were taken into effect regarding materials sites and other infrastructure activity. We remain concerned that both land acquisition proposals as well as curtailment of economic activities, even if extinguished by purchase, may limit the ability of local governments to function, and certainly affects on-going cash flow and long-term employment in the County.

12.11

We suggest that the Plan show:

- The extent to which monitoring of tortoise habitat and populations is currently taking place,
- The extent to which current use levels are contributing to a decline, if any, in population and habitat.

12.12

We are concerned that the Draft Plan assumes adequate funding for implementation and monitoring, yet throughout the region BLM has fewer staff in the field.

- Since adequate funding and staffing is a fundamental assumption (page 4-1), we believe that at least one alternative must show what BLM will do if "adequate" funding is not available, which may be a more logical scenario.
- What is "adequate" funding?
- What will be the total cost of implementation, including changes in ranch land values and use foregone?

12.13

12.14

12.15

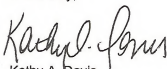
Letter 12 Continued

Comments on Draft Callente MFP Amendment
August 18, 1998
From: QuadState County Government Coalition

Page 3

We appreciate the opportunity to comment on the Draft. Please include our organization in further notifications of meetings, notices, and distribution of the Final Plan. Please send such materials to our Executive Coordinator, Gerald E. Hillier, P.O. Box 480, San Bernardino, CA, 92402.

Yours truly,



Kathy A. Davis
Chair



Gerald E. Hillier
Executive Coordinator

cc: Rey Flake, Lincoln County Commission
Hon. James A. Gibbons
Hon. Richard H. Bryan
Hon. Harry Reid
Karen Budd-Falen
Robert Abbey, Nevada State Director, BLM
C. Rex Cleary, Resources Concepts, Inc.

Letter 13
KENNETH M. REIM, P.E.
MINING ENGINEER
2733 Billy Casper Drive
Las Vegas, NV 89134-7814

--
(702) 254-2764

August 18, 1998

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, NV 89301-9408

Re: Comments on "Draft Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of the Desert Tortoise Habitat"

Gentlemen:

Attached are my comments to the above reference Framework Plan. This Framework Plan (FP) proposes withdrawal significant areas from mining location, and from mineral leasing. The alternative of opening more lands to mining location and leasing, than presently available, was not considered, and is required under the NEPA Environmental Impact Statement (EIS) process.

13.1

In Nevada, mining is the second largest industry, next to gambling/tourism. Mining also has the highest paid wage category, and provides the highest secondary employment. Mining depends heavily on federal lands being open to mineral exploration in Nevada and the West, and today, mining can be compatible with other resource values, such as tortoise habitat, with proper mitigation measures.

13.2

Recommendations for establishing new mineral withdrawals in excess of 5,000 acres requires the Secretary of Interior to favor such, and Congressional concurrence. It is in our National Interest to stop this trend of large mineral withdrawals being recommended by the Secretary of Interior.

BLM's serious review of the issued raised herein is of significant National importance, and will be a guideline for establishing future National Policies in these areas. Thank you for the opportunity to comment on this Framework Plan.

Sincerely,

Kenneth M. Reim

Kenneth M. Reim, P.E.

enc:

Letter 13 Continued

KENNETH M. REIM, P.E.

MINING ENGINEER

2733 Billy Casper Drive

Las Vegas, NV 89134-7814

(702) 254-2764

COMMENTS ON "CALIENTE MANAGEMENT FRAMEWORK PLAN AMENDMENT AND ENVIRONMENTAL IMPACT STATEMENT FOR THE MANAGEMENT OF DESERT TORTOISE HABITAT", ISSUED APRIL 1998

ISSUE - The proposed withdrawing from locatable minerals Areas of Critical Environmental Concern (ACEC), and other areas; and also significant areas from leasing solid and fluid minerals.

Documents Addressing the Issue - All significant available United States Department of Interior information on the presences of locatable and leasable minerals must be used for making comparable evaluations for all the resources, including the desert tortoise, such as the following:

13.3

1. The USGS's Mineral Resource Data System (MRDS) is on a CD ROM and is available for \$32, plus \$3.50 for shipping and handling, from the

U.S. Geological Survey
Information Service
Denver Federal Center
P.O. Box 25286
Denver, CO 80225

(303) 202-4610

Karen Bolm, USGS, Tucson, Arizona at (520) 670-5544, can provide a printout of available mineral resource data, geographic plot of the data for a given area, and the reference for each data entry.

Karen Bolm in January 1997 advised me that the USGS has temporarily suspended adding data to MRDS since October 1995, because of the lack of available personnel. Their future objective is to combine the USBM Mineral Industry Location System (MILS) with MRDS, and make it available on CD ROMs and the Internet.

2. The U.S. Bureau of Mines' Mineral Industry Location System (MILS) is available for \$14, Stock No. 024-004-02428-3, by calling (202) 512-1800 (Washington, D.C. area).

Another contact for this material is Doug Causey, formerly with the USBM, and now temporarily with the USGS in Spokane, can be reached at (509) 353-2650. (as of 2/97)

3. The U.S. Bureau of Mines' Mineral Industry Location System (MILS) is in Special Publication 96-2, "Indices to USBM Mineral Resource Records", editor L. Michael Cass, phone (202)

Letter 13 Continued

208-3760. This CD-ROM can be obtained under Order No. 024-004-02439-9 for \$15.00 from

Government Printing Office
Superintendent of Documents
P.O. Box 371954
Pittsburgh, PA 15250-7954

(202) 512-1800
Fax (202) 512-2250

4. During the approximate period of 1981-1993, the USBM prepared a number of "Mineral Land Assessment Reports" on Bureau of Land Management (BLM) and U.S. Forest Service wilderness study areas, including perhaps one mile or so outside the study area boundaries. These reports were provided to the various BLM district offices for the areas covered.
5. The USBM developed the "Geologic Information System (GIS) Mining Claim Density" mapping system whereby recorded mining claims with the BLM, for various time periods (1967-94) were plotted on maps. The BLM Denver Service Center has all this recorded mining claim information for the various western states. This type of plot clearly shows the intensity of locatable mineral activity on federal lands for various areas, thus, indicating potentially mineralized areas. The availability of this type of information is from Paul Hyndman, since the USBM has been absorbed by the USGS. Further information can be obtained from

Paul Hyndman
U.S. Geological Survey
West 904 Riverside, Rm 202
Spokane, WA 99201-1087

(509) 353-3176
Fax (509) 353-0505

6. The Nevada Bureau of Mines and Geology has compiled a data base in their report OF96-4, Nevada abandoned mines database compilation project, by Hess and Johnson (1996), CD-ROM and 8 pages text, \$65.00. The CD-ROM contains ARC/INFO coverages, export files and dBASE III+ database files of mine locations from USGS topographic quadrangles, MILS/MRDS/NBMG database, and the NBMG geochemical database (DB8 -Results of geochemical analyses of over 4,200 samples collected from mineralized sites throughout Nevada). This information can be obtained from

Nevada Bureau of Mines and Geology
University of Nevada Reno
Reno, NV 89557-0088

(702) 784-6691
Fax (702) 784-1709

7. The initial mineral leasing classification of these lands was done by the United States Geological Survey, Conservation Division, and subsequently that responsibility was transferred to the BLM in each state. This information for the Las Vegas RMP is not clearly shown in the RMP document. The set of maps showing the areas classified consists of the following mineral

Letter 13 Continued

categories:

Sodium and Potassium
Phosphates
Coal
Asphalt, Bituminous Rock, or Oil Shale
Oil and Gas
Geothermal

The contact for obtaining these mineral leasing land classification maps is as follows:

Jack Crowley
USDI, Bureau of Land Management
1340 Financial Boulevard
P.O. Box 12000
Reno, NV 89502

702-861-6400

8. An updated reference - Tingley, Joseph V., 1998, Mining Districts of Nevada (2nd edition): Nevada Bureau of Mines and Geology, NBMG Report 47, 128 p., one 27x34" color plate, April.

The provisions of the Mining and Minerals Policy Act of 1970, Public Law 91-631, 84 Stat.1876; and National Materials and Minerals Policy, Research and Development Act of 1980, Public Law 96-479, must be addressed (see attached).

Statement Why Proposed Plan is Wrong - The BLM should prepare a map of the area showing the distribution of mining claims versus the ACECs, and other existing and proposed land classifications. A plot of the unpatented mining claim density shows areas where reasonable people have expended time and money to explore for and develop locatable mineral deposits.

This issue is that the BLM did not adequately use the available United States Department of Interior (BLM, USBM, USGS), Nevada Department of Mines and Geology, Nevada Division of Minerals, and other published mineral resource data to compare the mineral resources of this area to the other resources. Further, the withdrawal of area from locatable mineral entry, and significant areas from leasing act minerals, is not in compliance with the Mining and Minerals Policy Act of 1970, Public Law 91-631, 84 Stat.1876; and National Materials and Minerals Policy, Research and Development Act of 1980, Public Law 96-479 (see attached).

13.4

With an approved mining plan of operations, and appropriate mitigation measures, there is no reason to withdraw nearly all the "Desert Tortoise, Cultural Resource, Special Geologic and Riparian Zones Areas" from the mining laws for locatable minerals, and leasable minerals. Mining operations would have significantly less impacts on tortoise habitat, versus the transfer of tracts of public lands in the Las Vegas Valley for housing/commercial development, where the tortoise habitat is totally destroyed.

Letter 13 Continued

There is an inconsistency of how various resource data is presented. For example, there is no list of mineral occurrences or operating mines. The 1997 Directory of Nevada Mine Operations for this area lists there location and other data; prepared by State of Nevada, Department of Business & Industry, Division of Industrial Relations, Mine Safety & Training Section.

13.4

In the preparation of this RMP, the available mineral resource data has not been sufficiently used in evaluating mineral resources versus the other resources.

The United States is dependent on over 50% of our energy resources from overseas, requiring a large military force overseas, costing billions of dollars, to assure our continued foreign energy supply. This need for foreign oil, dominates, and in some cases dictates, a significant part of our foreign policy. This also has a significant adverse affect on our Nations balance of payments for imports versus exports, and our National Policy of being less dependent on foreign sources of energy.

ISSUE - Restricting road access in violation of 43 USC 932, R.S. 2477.

The Mining Act of 1866 was "An Act Granting Right-of-Way to Ditch and Canal Owners Over The Public Lands, and For Other Purposes", 43 USC 932, R.S. 2477. R.S. 2477 was repealed by the Federal Land Policy and Management Act (FLPMA) of 1976; however, highways, as defined in the original act, established before October 21, 1976 were protected as valid existing rights. The June 1993 Report to Congress on R.S. 2477 is entitled "The History and Management of R.S. 2477 Rights-of-Way Claims on Federal and Other Lands". R.S. 2477 grandfathered certain rights which the United States Department of Interior must honor in the Final Report and Record of Decision.

The Caliente Management Framework Plan must be in compliance with the grandfathered provisions under 43 USC, R.S. 2477. Closure and restricted surface access adversely affects the rights to explore for minerals, and of owners of patented lands, including patented and unpatented mining claims, and mineral leases.

13.5

The closure of roads discourages exploration, development and production of locatable and leasable minerals. Further more, this issue of closing certain roads is not in compliance with Mining and Minerals Policy Act of 1970, Public Law 91-631, 84 Stat.1876; and National Materials and Minerals Policy, Research and Development Act of 1980, Public Law 96-479 (see attached).

13.6

ISSUE - The BLM has taken the position that one may not protest such proposed Final Plan unless they have participated in the planning process, and who has an interest which is or may be adversely affected by the approval of the proposed Plan. A protest

Letter 13 Continued

may raise only those issues which were submitted for the record during the planning process.

In Civil Action No. 97-1033 (JLG), United States District Court for the District of Columbia, in Northwest Mining Association, Plaintiff versus Bruce Babbitt, Secretary, U.S. Department of Interior; et. al., decision was filed May 13, 1998, dealing with the standing of protests. Also addressed in this court decision was the part Small Businesses (500 or fewer employees) play in U.S. Department of Interior rule making.

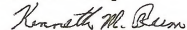
The above referenced court case better describes who has standing in protesting this RMP. All of the mining operations in this Plan area have less than 500 employees, thus, are in the category of being "small businesses".

I am a mining consultant, Member of the Nevada Mining Association, Member of the Society of Mining, Metallurgy and Exploration, Inc.; Member of the Canadian Institute of Mining, Metallurgy and Petroleum; registered Professional Mining Engineer in Nevada and New Mexico, and registered Professional Geologist in California.

I take the position that I have "standing to protest", and also my associations reference above, on all the issue raised in this plan, unless advised in writing. Removal of significant areas of this Framework Plan from locatable minerals, and significant areas from leasable minerals directly affects me, and members of the associations referenced in the above paragraph.

Date: August 18, 1998

Submitted by:



Kenneth M. Reim, P.E.

Attachments

Letter 14

Robert W. Maichle
4221 West Arby Avenue
Las Vegas, Nevada
89118-5107

Gene A. Kolkman, District Manager
Ely District, Bureau of Land Management
HC 33 Box 33500
Ely, Nevada 89301-9408

Re: Caliente Management Framework Plan Amendment

Hello BLM

This letter is written as a request to adjust the Mormon Mesa Area of Critical Environmental Concern (ACEC) boundary to reflect actual conditions on the land. My request represents concerns for both the future of the Endangered Species Act (ESA) and the future of high speed competition. While adjusting a tortoise ACEC to reflect where there are tortoises is important, this effort is prompted by a circumstance where no high speed competition can occur north out of Clark County between the west side of the Spring Mountains Range and the Utah Border. The proposed ACECs complete the barrier which begins with the Spring Mountains National Recreation Area, the Red Rock Canyon National Conservation Area, the Department of Defense, and the Desert Game Range managed by the Fish and Wildlife Service. The proposed Kane Springs ACEC, Mormon Mesa ACEC and Beaver Dam Slope ACEC as proposed in the draft complete the barrier.

14.1

Toquop Wash is a substantial natural feature which effectively separates the Beaver Dam Slope tortoise population from the Mormon Mesa tortoise population. This is not to say that there is not an exchange of genetic information but when examining the terrain it becomes obvious that such genetic exchanges are more likely to occur south of Interstate 15 (I-15) and north the East Mormon Range. In support of this proposal I have prepared several maps of the shaded relief portion of figure 1.

14.2

The Clark County ACEC on Mormon Mesa noted the sharp drop off from the Mesa and used this natural defining feature as a boundary. I propose that the east boundary of the Mormon Mesa ACEC be redefined to the ridge just west of Toquop Wash. Tortoise densities east of Mormon Mesa and west of Mesquite¹ Mesa do not warrant ACEC status. Protection for tortoise in those areas outside the ACECs can be accomplished with management prescriptions. Activities such as OHV racing would need to be scheduled during winter months (October 15th through

14.3

¹This is my name for the large rolling mesa which extends from Beaver Dam Wash to about two miles from Toquop Wash and lies the western portion is northwest of Flat Top Mesa. While traversed by washes which become pronounce near the Virgin River, this does form a plateau several hundred feet higher than the Toquop wash drainage.

Letter 14 Continued

March 15th) and summer months (June 15th through August 15th) to avoid the potential of conflicts. An interagency monitoring program could assure that impacts to these "out-of-ACEC" tortoise were insignificant. I have prepared a map² showing that boundary which I have labeled figure 2.

14.3

14.4

The argument could be made to keep with the wisdom of the Clark County ACEC and use Mesa as the defining feature. Tortoise density in the region between the mesa and Toquop Wash are extremely low and does not qualify as prime tortoise habitat. Inclusion of this low-density area will benefit other species and provide a buffer for the Mormon Mesa Tortoise. I have shown that boundary on a map I have labeled figure 3. *This is also an ALTERNATIVE B.*

The Beaver Dam Slope ACEC tortoise density also declines dramatically in the western portion of the ACEC. There exists a natural boundary which defines the western end of the Beaver Dam tortoise. This boundary roughly extends from Flat Top Mesa north by northwest toward the Tule Desert. Readjusting the western boundary of the Beaver Dam Slope ACEC to reflect this natural feature is warranted. While this will add some acres to the ACEC it reflects the natural boundary far better than the straight line proposed in the draft. I have shown that boundary on a map I have labeled figure 4.

Toquop Wash is a natural depression which separates these two tortoise populations. Genetic exchange does occur between these populations and we must assure that this condition continues. I cannot see any reason to use the draconian restrictions of an ACEC to protect such an exchange. Other than demonstrating an anti-OHV bias prevalent in Fish and Wildlife actions and accomplishing a goal of blocking racing out of Clark County I see nothing which warrants making Toquop Wash part of a tortoise ACEC. There exist real natural boundaries both east and west of Toquop Wash. I have prepared shaded relief maps with early morning shade (figure 5) and late afternoon shade (figure 6) so you can observe for your self what we observed on the Resource Advisory Council trip.

14.5

Toquop Wash does has other features and using the graded, maintained Half Way Wash Road makes better sense for larger OHV events. It is unfortunate that Clark County can not be persuaded to allow high speed competition on their portion of the Half Way Wash Road during non-critical tortoise periods. Given the reluctance of the Fish and Wildlife Service to be reasonable, I must insist that the eastern boundary of the Mormon Mesa ACEC be redefined to reflect where the tortoise are and allow at least one way of getting a high speed competition event from Clark County to Lincoln County.

Sincerely

Robert W. Maichle
Robert W. Maichle

² These shaded relief maps were prepared using ArcView, USGS 7.5 minute maps, and Digital Elevation (DEM) data from USGS.

Letter 15

Robert W. Maichle
4221 West Arby Avenue
Las Vegas, Nevada
89118-5107

Gene A. Kolkman, District Manager
Ely District, Bureau of Land Management
HC 33 Box 33500
Ely, Nevada 89301-9408

Re: Caliente Management Framework Plan Amendment

Hello BLM

These are comments on the Draft Caliente Management Framework Plan (MFP) Amendment and Environmental Impact Statement (EIS) for the Management of Desert Tortoise Habitat. I have taken my notes and included them with the page number starting at the beginning of the book.

Page 2-23 under **Organized OHV Use** seeks to close all Areas of Critical Environmental Concern (ACEC) to speed competitive Off Highway Vehicle (OHV) events. Speed contest in washes such as Toquop and on graded highways like the Carp/Elgin Road and Half Way Wash Road are appropriate in the winter when the tortoise are hibernating and in the heat of the summer when it is too hot for tortoise foraging. Areas such as Toquop Wash have such low densities that even finding a tortoise during the critical months¹ would be difficult. The ACECs as proposed create a solid barrier from the Desert National Wildlife Range to the Utah border. A long term solution is the tortoise fencing of the Carp/Elgin Road and Half Way Wash Road, and the recognition that Toquop Wash is not critical tortoise habitat. An immediate solution is to designate Half Way Wash Road as a high speed OHV corridor during non-critical months and adjust the Mormon Mesa ACEC eastern boundary west of Toquop Wash. Designating Half Way Wash Road as an high speed OHV corridor would require that the Clark County portion of Half Way Wash Road also be designated as a high speed OHV corridor. The land south of the Clark/Lincoln County line is not within an ACEC so no cooperation with Clark County is necessary.

15.1
15.2
15.3

Page 2-23 under **Organized OHV Use** talks about passing through but some of these events could be appropriate and totally within the ACEC. I would rather see the Mormon Mesa ACEC and those portions of the Beaver Dam Slope ACEC which are accessed from Nevada follow the rules established in Clark County. I believe that the road which is entered from Arizona should be used only during the months allowed by the Arizona BLM. I believe that the

15.4
15.5

¹ While the critical months are April, May, and September, March 15th to June 1st and August 15th to October 15th provide a liberal definition of critical tortoise activity months.

Letter 15 Continued

Kane Springs ACEC should have restrictive² limitations during the critical desert tortoise months and less restrictive³ during non critical tortoise months.

15.5

Page 2-24 under Minerals Management would withdraw the Kane Spring ACEC from mineral entry. I am not convinced that requiring a plan of operation, bonding, and close scrutiny as required under Section 7 consultation is not sufficient management.

15.6

Page 2-29 at the last line on the page seeks to "*stabilize desert tortoise populations at existing trend levels.*" Do we have existing trend levels?

15.7

Pages 2-29 through 2-36 detail management for tortoise habitat areas outside of an ACEC and are well written and address the same concerns that I have. I could endorse this as a proposed action.

Since Alternative A appears to be the preferred alternative I will comment on those sections which I disagree or have questions on and only provide summary comments on alternatives B and C.

15.8

On page 2-37 you state that "... *portions of allotments within ACECs ... would remain open to...*" cattle grazing. I find this refreshing and in accordance with the only study on tortoise and grazing that I am aware of. This was done by Phil Medica around 1987 near Ivanpah just south of the Nevada/California line. The study concluded that there was no discernible effect on tortoise population with moderate⁴ grazing.

15.9

On page 2-38 under the last paragraph, Use Adjustment Criteria, notes the dynamics of the range. Any strategy must address drought, atypical summer and fall greenups⁵, late spring rains, mild June weather and extended spring growing seasons. Dynamic management might include establishing "a limit of acceptable change" but must stress the long term health of the land⁶.

15.10

² The Kane Springs Wash County Road only might be appropriate.

³ Additional roads allowed including the old highway north of Kane Springs Wash Road and east of Highway 93 and the road over the southern end of the Delamar Mountains (Kane Springs Wash Road to Gregerson Basin).

⁴ The key here is moderate grazing and your recommendations on page 2-38 under Constraints on Livestock Grazing within ACECs are sufficient to guarantee moderate usage.

⁵ Fall greenups are prime tortoise time for stoking up for the winter and will get heavy tortoise activity.

⁶ The standards and guidelines were developed to provide for reaching and progressing beyond good rangeland health.

Letter 15 Continued

On page 2-39 under Casual OHV Use the document notes that "*Vehicle use outside of ACECs would remain open, as currently designated*." I would hope that you would recognize the OHV use is also dynamic and have provisions under something like a limit of acceptable change to deal with potential threats to the habitat in a timely manner.

15. 11

On page 2-39 under Organized OHV Use the document notes defines the inactive season as October 15th to March 15th and then seeks to "*Close ACECs to speed competitive events during the tortoise active season.*" While I agree that it is prudent to close tortoise habitat during the spring and fall months (April, May, and September) I fail to see why such restrictions should be imposed during the the hot summer periods of tortoise inactivity. I would favor stating October 15th to March 15th and June 15th to August 15th as appropriate season use for speed competitive events. The use of Carp/Elgin Road, Half Way Wash Road and Toquop Wash during the winter periods of inactivity and the summer periods of relative inactivity seem appropriate.

15. 12

On page 2-39 under Organized OHV Use the document would "Allow non-speed and non-competitive OHV events to pass through ACECs ... without seasonal restrictions. All non-speed and non-competitive OHV events are not the same. Coordination with Arizona and Clark County Management Plans for the Beaver Dam Slope ACEC and the Mormon Mesa ACEC are important. Size, time of year, type of activity all must be taken into consideration. While to harsh a restrictions is not my goal, adequate protection for tortoise and their habitat is. This paragraph needs work to say the things we all believe.

15. 13

On page 2-39 under Minerals it is important to have a approved plan of operation before any significant surface disturbance, Standard Operating Procedures (SOPs) and a reclamation plan are also essential. Scrutiny and dynamic management is appropriate in the name of the tortoise and its habitat.

15. 14

Alternative B implements a larger Mormon Mesa ACEC and eliminates the Beaver Dam Slope ACEC. This larger Mormon Mesa ACEC includes that portion north of the East Mormons where I believe most genetic information is exchanged. The exclusion of the Beaver Dam Slope provides access for speed-competition in Toquop Wash and Kane Springs Wash Roads. The ACEC that you have drawn for Mormon Mesa more closely reflects the actual area of desert tortoise density and is an more appropriate Mormon Mesa ACEC. While the western portion of the Beaver Dam Slope ACEC does not meet the criteria for a desert tortoise ACEC the eastern portion of that Beaver Dam ACEC (Excluded in Alternative B) does provide protection for the significant Beaver Dam Slope population of Utah and Arizona. My off-road concerns could support this proposal. Using the eastern boundary of the Mormon Mesa ACEC in conjunction with Alternative A would be appropriate. If Alternative B is used, adequate protection for desert tortoise habitat outside the ACECs is mandated. Protection for tortoise outside the ACECs from March 15th to June 15th and August 15th to October 15th by restriction on potential tortoise impacting activities like surface disturbance in mining and speed-competitive OHV activities is also mandated. I could support Alternative B, I would support this alternative if I believed that such support would be taken seriously and that this alternative could be implemented.

Letter 15 Continued

Would that the future of the desert tortoise was such that we could seriously consider alternative C.

On page 2-59 several recommendations are made which should be implemented if alternative B is considered. I would consider these appropriate prescriptions for areas outside of ACECs.

Section 3 attempted to give a general overview of the affected environment. I found it informative and useful. I found some of the assumptions presented did not have the overwhelming amount of scientific evidence but recognize that this the nature of information on desert tortoise. I offer my congratulations to the preparers who have made a damn good section including the difficult discussion of tortoise trends, factors influencing tortoise populations, effects of grazing where passion often outweighs science.

Page 4-10 notes the consequences on OHV events. I believe this states this problem impact well. I also believe the preferred alternative, as written in the draft, is to draconian and places unnecessary burdens on OHV promoters.

Page 4-96 discusses OHV use in Clark County. Organized OHV use in Clark County has to contend with serious casual OHV use of an organized trail or event course. This is not the case in Lincoln County and that distinction needs to be made.

15. 15

Page 4-99 discusses the raven. I do not believe that enough is being done to reduce those man caused factors which are leading to the dramatic increases in raven populations that I have seen in my lifetime⁷. Recruitment of juvenile tortoise is most affected by ravens⁸ and that is something that can be studied each year. Selective elimination of proficient raven is warranted. Studies on how recruitment is affected by ravens are necessary. The number of ravens⁹ in the Mojave are because of man. It is our responsibility to understand this new predation threat to all reptiles, not just desert tortoise.

15. 16

Page 4-112 under OHV Activities quotes USFWS in slandering OHV activities. This

15. 17

⁷ It had to be the early 1960s when I saw my first raven in the Mojave desert. The scavenger then was the turkey buzzard, a magnificent creature who has been driven from most of the Mojave by ravens. I suspect ravens first came to the the Mojave from the central valley of California and don't believe the were any factor in tortoise predation before 1950. Our land fills, highways and subsequent road kills, transmission lines, and general human waste have brought these effective hunters to the Mojave.

⁸ This is not to say all ravens prey on tortoise, only that hatchlings are vulnerable, and some ravens become proficient at exploiting that vulnerability.

⁹ I cannot not find any reference to ravens in the Mojave desert before paved roads. I am not convinced that ravens are endemic to the Mojave Desert but the number of ravens is unquestionably the responsibility of modern man..

Letter 15 Continued

lumps good organized events, responsible casual users, and commercial users with a small but significant group of irresponsible land abusers. These land abusers seldom venture far from their urban nests and Lincoln County is not subject to much of their terror and destruction.

This document is well written and a cut above the typical tortoise slamdunk often taken. I have heard many people note conflicting statements between sentences and between paragraphs. These conflicts are a fair presentation of differing opinions and if taken in context of the section are appropriate. My congratulations to the Ely district on a job well done.

Sincerely



Robert W. Maichle

Letter 16

Gene Drais
Bureau of Land Management
Ely Field Office

Dear Mr. Drais,

Thank you for the opportunity to comment on the draft plan amendment and EIS for desert tortoise habitat.

In the public meeting held in Caliente Nevada those present agreed that Pahranaget valley north of Manard Lake is not desert tortoise habitat. This needs to be stated in the plan. The lowest portion Pahranaget valley (along Highway 93 right-of-way) meets the elevation requirement, but does not meet the climatic requirement. Long time residents of Pahranaget Valley maintain that it becomes too cold in the winter time. Tortoise do not survive long term in Pahranaget valley.

16.1

I know that a soil survey has been completed for all of Lincoln county. I think the soil information (maps with texture) needs to be included in the final EIS. Wilson and Stager (1989) showed soil texture as an important component of tortoise habitat.

16.2

I am not convinced that the conclusions reached by Bostick (1990) should be dismissed. Anecdotal data indicates that in grazing allotments desert tortoises followed the cattle from one pasture to another. I have personally observed tortoises eating horse dung. If the conclusions reached by Bostick are wrong then tortoises in areas where cattle grazing has been excluded should be in better condition than tortoises found in grazed areas. Cattle have been excluded from the Nevada Test Site for forty years. A ten year study of tortoises in Rock Valley within the Nevada Test site showed the tortoises to be under continual stress (Nagy and Medica (1986) in Bostick (1990)). Chapter 3 of the draft EIS discusses the apparent decline of tortoises in the western Mojave especially in and around the Desert Tortoise Natural Area. I assume that grazing was excluded in those areas. Yet during that same time period, the relative abundance of tortoises in the eastern Mojave was stable or increased (pg. 3-13). During that time grazing was still allowed in the eastern Mojave. Many tortoise biologists have an innate bias against livestock grazing (Sid Sloan for example). Table 3-3 shows the tortoise population in Sand Hollow to be stable. Sand Hollow was actively grazed during the time of the survey. In this case grazing did not seem to negatively tortoise numbers. I would like to see a more specific monitoring plan in the final EIS.

16.3

16.4

Based on my personal research, the exotic annual component of the Mojave desert is here to stay. Exotic annuals increase the potential for wildfire. Wildfire is detrimental to tortoise habitat. In the Mojave, revegetation using native species is difficult if not impossible in some cases. Grazing is a cost-effective biological tool to manage fine fuels loads. This option needs to be discussed and included in the final analysis.

16.5

As I've read the literature and the draft EIS, I'm appalled at the lack of baseline information. It becomes apparent that the EIS relies heavily on the recovery plan and

16.6

Letter 16 Continued

designation of critical habitat documents produced by USFWS. McClain (1996) found the scientific and substantive basis of the recovery program recommended by USFWS lacking. How can BLM produce a quality document without good data? How will we know when the tortoise is recovered?? I would like to see more baseline data in the final document.

16.6

As I have read the draft document, I have found some problems with ideas tracking between sections. I have talked to other readers who encountered the same problem. Time does not permit a thorough discussion with examples.

Sincerely,

Jule Wadsworth

References:

- Bostick, V. 1990. The Desert Tortoise in Relation to Cattle Grazing. *Rangelands* 12(3).
- McClain, J. and et.al. Desert Tortoise situation Review , Report. Resource Concepts Inc.
- Wilson, R. W. and Stager, R. D. 1989. Association Between Soils and Desert Tortoise Population Densities and Distribution, Piute Valley. *Rangelands* 14(4).

Letter 17

26 August, 1998

Laren Flake
HC 64 Box 5
Caliente, NV 89008
(702) 726-3530

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, Nevada 89301-9408

Comments regarding Draft Caliente Management Framework Plan Amendment and
Environmental Impact Statement for the Management of
Desert Tortoise Habitat

I am concerned about the Caliente Management Framework Plan (MFP) Amendment and Environmental Impact Statement (EIS) for the Management of Desert Tortoise Habitat as currently drafted. Many areas offer incomplete or conflicting information as well as unclear reasoning for actions determined necessary to benefit the tortoise.

In reading the draft MFP I failed to find even an estimate of the cost of implementing the recovery plan. The total cost estimate and where the funds are derived from the BLM budget would be valid both to the taxpayer and even more so to those working with BLM managed lands in the Ely District.

17.1

Page V the final sentence says the MFP will allow multiple use that is compatible with the desert tortoise. After reading the suggested restriction or elimination of most current multiple use in Areas of Environmental Concern (ACECs) one questions just what multiple use is compatible with the tortoise? I see a lot of priority given to a single user in a multiple use management area.

17.2

Letter 17 Continued

Page S-3 states that horses and burros on Horse Management Areas (HMAs) within the ACECs will be managed with seasonal utilization limits. Who and how will this utilization management be implemented and carried out?

17.3

Page 1-1 Is the entire desert tortoise population in the U.S. endangered or just those in the Northeastern Mojave Recovery Unit? If the tortoise is only endangered in the Northeastern Mojave area what sets these tortoises apart from the general desert tortoise population in the U.S.?

17.4

"According to USFWS, "recovery plans are only guides which provide possible options" and impose "no obligations on any obligations on any agency, entity, or persons to fulfill the various tasks listed in the Plan." If this is the case why is a special MFP for the tortoise valid if it is merely a guide? Why can the objective of making the tortoise population stable not be accomplished by the current management plan of the BLM?

17.5

17.6

Page 1-3 Criterion 1 for delisting was a significant upward trend or remain stationary for at least 25 years. Please define significant. According to the table on page 3-14 the tortoise population has been stable or increasing since before being listed as threatened. Why can they not be immediately delisted as their numbers are not and apparently have not decreased since the first census available in the MFP? Since prior censuses were not included one may assume that they do not exist therefore what is the baseline for determining that the tortoise population has ever decreased significantly?

17.7

17.8

Page 1-4 If the designation of critical habitat does not prescribe specific management action why are restriction or elimination of some multiple uses deemed necessary?

17.9

Page 2-13 The MFP states that no private lands will be directly affected, when one considers that most allotments are based upon private land acreage and with the high percentage of ACEC area, how can this not be considered a direct effect? We must remember that many operations are unviable with the restriction or elimination of AUM's.

17.10

When the environmental consequences were considered in the MFP, several times one finds that there is incomplete or unavailable information. How are valid decisions made based upon incomplete or unavailable information?

17.11

Letter 17 Continued

I am concerned that the MFP as currently proposed lacks multiple use consideration. Restrictions or elimination of recreational, mining, and livestock uses were made within the draft MFP without evidence of a detrimental effect on the desert tortoise. I question why these activities which are of economic value to the communities within the management area are targeted to bare the brunt of responsibility for the tortoises supposed decline without any management considerations of natural predators, such as ravens.

17. 12

17. 13

17. 14

Many of the proposed actions are based on evidence that is either unsubstantiated or disputed. The listing of the desert tortoise has threatened and the draft MFP for recovery leaves me questioning the future of the tortoise. Many of the multiple uses are being sacrificed to restriction or elimination without proof of how the tortoise population will be affected. Based on the data in table 3-4 concerning tortoise population from 1986-1994, it appears that current management and use of public lands is conducive to the tortoises survival. I recommend that the "no action" alternative be taken on the MFP for the Northeastern Mojave Resource Area.

17. 15

17. 16

Thank you for your consideration.



Laren Flake

Letter 18

Rey Flake
P.O. Box 482
Caliente, Nv. 89008

Bureau of Land Management
Ely Field Office
Gene L. Draiss, Project Manager
HC 33, Box 33500
Ely Nevada 89301-9408

August 27, 1998

Dear Gene,

Thank you for the opportunity to comment on the Caliente Management Framework Plan and Environmental Impact Statement for Management of Desert Tortoise Habitat.

I realize and appreciate the hard work that has been done by you and others of the BLM Staff to provide this EIS and strive to lessen the impact of the Plan Amendment on grazing, mining, recreation, and other multiple uses on the Public Lands. I do however remain greatly alarmed at removing such large areas from multiple use, a concept that is supposed to be espoused by the BLM. All this done with little or no scientific facts to back up the need. All this under scored by the fact that the work done by your predecessors in the Bureau in creating the Biological Evaluation sent to the U.S. Fish and Wildlife for the original Biological Opinion, was determined by Interior Department Law Judge Ramon Childs to be a "Flawed Document". (Grazing issue Judgement of 1995) It appears to me that no matter how hard you have tried some flaws remain in the document because no one has been willing to correct the original flawed document but only add to and try to cover up.

18.1

18.2

I feel like the BLM has definitely been left "hung out" by the USFWS because of their refusal to attend public meetings to help you explain the need for the actions taken. One can only conclude that they feel there is no justification for actions demanded by them or they would be willing meet the public and back up their decisions. This then only adds to the feeling that the whole process is political and not scientific.

I certainly appreciate your "full disclosure" attitude in writing this Plan Amendment. The fact that you have been truthful about the lack of knowledge and data is very commendable. My concern comes from the fact that you are willing to propose actions that cause such an impact on the public use of their lands with such limited science and data.

18.3

Letter 18 Continued

On page 3-31 the document states in Lincoln County "Personal status and environmental concerns receive little emphasis". This statement is not only unfair but untrue. Do you have to be an environmental activist to be concerned about the environment?

18.4

Page 3-32 Generally, ranchers resent the nationwide environmental trends of the last 20 years which they see as restrictive. This should be stated that Generally, ranchers resent excessive Government Regulation trends of the last 20 years which they see as restrictive. Where do you find better environmentalists than ranchers? While everyone is talking about environmental concerns they are daily doing something about it.

18.5

Page 3-33 However, net ranch income is estimated at \$4.80 per AUM. Page 3-34 Historically, the economic benefits derived by area ranchers from the use of public range have exceeded the fees they are charged. These are conflicting statements. You need to correct one or the other or both. You fail to state the cost to a rancher to operate on public land and the benefits they provide to the land by being there.

18.6

Page 4-2 Information is currently incomplete or unavailable from the planning area for the following issues: desert tortoise population trends; rates and causes of desert tortoise mortality; the effects of livestock grazing on desert tortoise recovery; and the potential for recovery of native plant communities in the short and long term. Disagreements among professionals, conflicting data, or the lack of data characterizes many domains in tortoise biology. Next paragraph In the professional judgement of biologists working for the USFWS, BLM, USGS-National Biological Survey, and other institutions (e.g. the Smithsonian), the best available scientific data and the preponderance of evidence indicates that livestock grazing negatively impacts the desert tortoise and its habitat. According to the Recovery Plan, livestock grazing should be prohibited in any special management areas designated for desert tortoise. What professional would make judgement given this gross lack of scientific data? Professional is not a fair description of the judgement in this case. This is trying to justify a predrawn conclusion.

18.7

18.8

You yourselves have stated that the Rox-Tule sheep allotment has not been grazed since 1988 (10 years). If you were really interested in the relationship of livestock grazing and tortoise habitat wouldn't they be checking tortoise numbers and trends on this allotment compared to the allotments next to it that are still being grazed? What about other allotments in Lincoln and Clark Counties that have had, as stated by you, little or no grazing in the last

18.9

18.10

Letter 18 Continued

few years? Has anyone been interested enough to see what tortoise numbers and trends are doing there? Are we so busy making decisions that we don't have time to see if our decisions are correct or not?

18.10

Page 4-5 The implementation of raven control programs alone could reduce the mortality rates among hatchlings and juveniles by as much as 85 percent in some parts of their range. (Berry 1988)

18.11

Wouldn't it make sense to control the ravens and leave multiple use of public lands intact? Lets attack the problem and not just "kick the dog"

Page 4-8 How do you propose to use seasonal utilization limits with wild horses and burros. You impose grazing limitations on livestock but with actually no intention of limiting use by horses and burros. Explain the science behind that action.

18.12

Page 4-11 Again I request more utility corridors. We need two corridors for possible natural gas lines into Northern Lincoln County from the existing cross country line. One up through the Carp area and one coming in from further east in a more direct route into the Panaca and Pioche area.

18.13

Page 4-77 #3 Minutes of the Legislative Committee meeting also show that according to BLM desert tortoise expert, Mr. Sid Slone of the Las Vegas District. "Based on current data, the position of the BLM is that livestock grazing has an impact on desert tortoise." What current data? Your document stated that there is no data, yet this so called expert bases decisions on data. Where are his qualifications stated? How did he become an expert?

How do we determine who are peers in peer review? It appears that you go to great lengths to discredit anyone that does not agree with your position. It would appear to me that it would lend strength to your position if it could stand review by even those that do not agree with you.

18.14

Page 4-77 It was necessary to use professional judgement to establish the impact-link between livestock and tortoise rather than a definitive study since, "Studies designed to detect this linkage (between grazing and species declines) are, interalia, logistically difficult, expensive, politically contentious, and statistically indefensible. On the other hand, there is strong circumstantial evidence that grazing is a major problem." (Carrier and Czech, p.39)

How can you justify such "major impact decisions" on circumstantial evidence? No accounting is made of the "strong circumstantial evidence". Where is it? Does it actually exist?

Letter 18 Continued

What about the fact that livestock numbers are down so much in the tortoise habitat? With cattle numbers down shouldn't tortoise numbers be up if livestock are really affecting the tortoise? Isn't that circumstantial evidence? Do we only accept circumstantial evidence that supports our desired conclusion? It appears that either the same event is affecting livestock and tortoise numbers or that there is a positive link between livestock and tortoise.

18. 14

Your document seems to be as complete as you can make it given the lack of scientific information..I do however fail to see how you arrive at your (proposed action) Alternative.

I have asked before and have never received or seen in print the cost to the BLM to do this Framework Plan Amendment. What will be the total cost of this recovery plan? Is this a line item in the Ely District budget? Is it taking resource and personnel away from doing other public land monitoring and management that should be done? Shouldn't this be public knowledge?

18. 15

Thank you again for the opportunity to comment. As you can see I am very concerned about making decisions that have such far reaching impact without more scientific data to justify the action. I believe creditability would be better served by basing decision on fact.

Sincerely,

L. Rey Flake

Letter 19



United States Department of the Interior

FISH AND WILDLIFE SERVICE
RENO FISH AND WILDLIFE OFFICE
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NEVADA 89502-5055

File No. 1-5-98-TA-306
BLM 10-7

Memorandum

To: District Manager, Ely District, Bureau of Land Management, Ely, Nevada

From: Field Supervisor, Reno Fish and Wildlife, Reno, Nevada

Subject: Draft Caliente Management Framework Plan Amendment

The Fish and Wildlife Service (Service) has reviewed the *Draft Caliente Management Framework Plan Amendment for the Management of Desert Tortoise Habitat/Draft Environmental Impact Statement* (MFP Amendment/EIS). The Service appreciates the opportunity to review this draft document, given its importance to implementing tortoise recovery on lands administered by the Bureau of Land Management (Bureau).

Service comments were provided on earlier versions of this document, some of which have been incorporated into the most recent draft (April 1998). Informal consultation was provided on the *Preliminary Draft MFP Amendment/EIS* on August 8, 1995 (File No. 1-5-95-I-051). Technical comments on the *Draft Cumulative Impact Analysis of the Desert Tortoise Land Use Plan Amendment to the Caliente Management Framework Plan* were provided on June 5, 1996 (File No. 1-5-96-TA-167). On October 9, 1997, the Service provided technical comments on the internal *Draft MFP Amendment/EIS* (File No. 1-5-97-TA-306). In addition, the Service consulted informally on the *Proposed Management of Desert Tortoise Habitat in the Northeastern Mojave Recovery Unit* (File No. 1-5-95-I-351) on October 19, 1995. This last informal consultation included the MFP Amendment/EIS, as well as other Bureau land use plan amendments/revisions that would affect actions within the Northeastern Mojave Recovery Unit.

Please consider previous Service comments identified in the above documents as part of this review of the MFP Amendment/EIS. These previous comments shall be incorporated by reference and not restated in this document. Our review and comments are focused on the agency's preferred alternative; should the Bureau modify this alternative or select another alternative as the preferred alternative, we suggest you request Service comments on the

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modifications or new alternative selected. Also, our evaluation takes into consideration the expected level of habitat disturbance projected in this report; should habitat disturbance be substantially different, our conclusions would likely change.

General Comments:

- The Service commends the Ely District for proposing actions to minimize known and potential impacts to desert tortoise and its habitat. The document is very comprehensive and provides thorough coverage of threats to tortoise and recovery strategies, as well as past actions which have contributed to the current status of the species.
- The Service understands that the Bureau proposes to continue to license livestock grazing within the Terry allotment and to a lesser extent, other allotments, within critical habitat, which accounts for approximately 17 percent of the desert tortoise critical habitat that occurs in the Ely District. The Service recommends that the Bureau include that portion of the Beaver Dam Slope Critical Habitat Unit (CHU) within the Beaver Dam Slope Area of Critical Environmental Concern (ACEC), particularly the Terry allotment which is administered by the Bureau's Arizona Strip Office. This action would defer grazing prescriptions to those established in the Arizona Strip Resource Management Plan (RMP). If the Bureau chooses to exclude this area from ACEC designation, the Service believes that grazing prescriptions for critical habitat should only occur from October 15 to March 15, as you propose in Table 4-11. This grazing period is consistent with grazing prescriptions proposed or implemented in Utah and Arizona.

19.1

Because the shape of the proposed ACECs in the northern portion of the Northeastern Mojave Recovery Unit results in a large edge effect (ratio of edge to interior area), the reserve design of these proposed recovery areas are compromised. In addition, if the private lands (formerly known as Aerojet) are developed, this will contribute substantially to the edge effect within the recovery unit, as well as fragmentation, in addition to direct and indirect effects to the Mormon Mesa, Kane Springs, and Coyote Springs ACECs. The biological opinion (File No. 1-5-96-F-296R, as reinitiated) covering livestock grazing in critical habitat will expire when the MFP amendment is finalized in early 1999. In your June 19, 1998, memorandum and attached biological evaluation dated June 1998, the Bureau proposed livestock grazing outside ACECs, and outside ACECs but

19.2

19.3

19.4

Letter 19 Continued

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within critical habitat. Although not designated as ACEC, the Service and Bureau are required to ensure that proposed actions will not result in destruction or adverse modification of critical habitat, as determined through formal consultation.

19.4

- As proposed by the Bureau, the Service highly recommends retention and acquisition of private and leased lands within ACEC boundaries, particularly those formerly known as Aerojet. Prior to listing the tortoise, Congress authorized the transfer of Bureau lands to the Aerojet Corporation for the purpose of developing a project with minimal indirect effects outside the immediate project area. If the area is used for residential and commercial development, the Service anticipates that effects to tortoise will increase substantially.

19.5

- Because Federal agencies are mandated to ensure that proposed actions are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat, we suggest deletion of this statement in the second paragraph under **Locatable Minerals** on page 2-24, and throughout the document. Through informal and formal consultation, the Service and Federal agency should reach concurrence that proposed actions are below the jeopardy or adverse modification threshold. A jeopardy or adverse modification biological opinion indicates that the Service and Federal agency failed to develop alternatives or modifications to the proposed action with acceptable levels of effect to a listed species or its critical habitat. Therefore, we suggest emphasis on this proactive approach to the consultation process.

19.6

- We suggest that the Bureau include a discussion on compensation strategy for the loss of tortoise habitat. In 1991, the desert tortoise Management Oversight Group (MOG) developed a range-wide plan to assess fees to compensate for the loss of tortoise habitat (Hastey, et al. 1991). The Bureau, Service, and State wildlife agencies agreed to assess such fees for actions that result in loss of desert tortoise habitat in accordance with the formula developed by the MOG. Within ACECs and desert tortoise critical habitat, habitat loss is calculated by multiplying a base amount (currently \$578 per acre) by a factor of 3 to 6; therefore, the loss of desert tortoise critical habitat or habitat within ACECs, would require a monetary compensation of \$1,734 to \$3,468 per acre. Outside critical habitat or ACECs, the factor would be one, or \$578 per acre. The base rate is adjusted for inflation at the beginning of each calendar year.

19.7

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When designating critical habitat for the desert tortoise in Nevada, the Service believed that including National Wildlife Refuge lands in the designation was unnecessary because these lands receive a high level of protection and conservation under land management policies for Service refuges. In reference to this decision, the Service is concerned with the grazing prescription proposed for the Lower Lake West allotment (LLW) which occurs at the northern boundary of the proposed Kane Springs ACEC, west of the Pahranaagat National Wildlife Refuge (PNWR).

During the dry season, the irrigated pastures and abundant water inside the PNWR are a natural draw for cattle using the adjacent LLW allotment. The result is intensive grazing pressure on the western refuge boundary and consequential degradation of desert tortoise habitat on Bureau and refuge lands along the PNWR/LLW boundary. In an effort to reduce grazing impacts on PNWR lands and allow some recovery of tortoise habitat, we suggest that the portion of the LLW allotment which supports desert tortoise (approximately 13,300 acres), be considered for seasonal use. Since adjacent allotments (Pahranaagat Lake West and Pahranaagat Lake East) consist of similar habitat characteristics and receive only seasonal use, the Service believes that it is appropriate to classify LLW allotment as seasonal use only. We also suggest a greater utilization of existing water hauls within the LLW allotment that occur distantly from the PNWR/LLW boundary, thus directing cattle onto the allotment and away from the boundary, and potentially reducing forage competition between cattle and tortoises.

19.8

As stated in the draft memorandum submitted by facsimile from the Service to the Bureau on July 8, 1998, potential impacts to tortoise and its habitat that may result from off-highway vehicle (OHV) activities cannot be adequately evaluated as described in the MFP amendment/EIS. Following conversations among agency staff, the Service anticipates that Bureau staff in the Caliente Office will provide additional information on the Bureau's proposed action for off-highway vehicle (OHV) management.

19.9

Additionally, we suggest that the Bureau include a discussion on OHV monitoring. The Bureau's Las Vegas Field Office, in consultation with the Service, will develop a monitoring plan to assess impacts to tortoise and its habitat within proposed ACECs, if present, that result from casual and organized OHV activity. Based on the results of the plan, OHV use may become more or less restrictive within ACECs.

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- The Service endorses your proposal to retain all public lands leased to private holders currently known as Harrick Investment (formerly Aerojet) lands, and acquire those lands transferred to private holders if they become available. Transferred lands were originally intended to be used for development of a rocket engine facility, potential impacts from other uses, such as residential development, may increase substantially, both within the transferred lands and zone-of-influence. The projected level of ground water pumping for the rocket facility was substantially less than the anticipated demand for ground water to supply residential development. Such increased levels of ground water pumping may jeopardize populations of Federally-listed fishes in the area. Human-related impacts associated with residential development, such as feral dogs and cats, off-highway vehicles, illegal dumping, and vandalism, are known to encroach into surrounding undisturbed areas. Such impacts can be extremely detrimental to tortoise populations.

19.10

Specific Comments:

Chapter 1: Introduction

Page 1, Paragraph 2, Last Sentence: We suggest that this statement, which was excerpted from correspondence between the Service and National Park Service regarding a research permit, be replaced with a more appropriate and applicable statement. As a replacement, we suggest the following: Recovery plans delineate reasonable actions which are believed to be required to recover and/or protect listed species (USFWS, 1994a).

19.11

Page 1-5, Paragraph 5, Second Sentence: We recommend replacing this sentence with: "The Las Vegas District proposes restrictions on OHV activity within ACECs, including timing; limiting numbers of events per year and per ACEC according to active and inactive seasons for the tortoise; and requiring special recreation permits for organized events with 26 or more individuals." We suggest that the Bureau include a brief discussion on consistency between the Caliente MFP amendment and recommendations in the Recovery Plan.

19.12

Page 1-8, Paragraph 3: Please clarify the reason the Bureau's proposal is inconsistent with the 1994 Lincoln County resolution in this paragraph instead of referring to another section of the document.

19.13

Chapter 2: Alternatives

Page 2-11, Special Status Animal Species/Wildlife Habitat Management: Please identify and describe the types of permits that the Bureau proposes to issue for research. This information is needed for the section 7 consultation process.

19.14

Letter 19 Continued

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Page 2-28, Fire Management: We suggest that the Bureau include a statement that section 7 consultation will be requested for fire management, as appropriate.

19.15

Chapter 3: Affected Environment

Page 3-8, Threatened or Endangered Species: It should be noted that the endangered Moapa dace (*Moapa coricea*) at Muddy Springs, although not present in the planning area, is dependent upon ground water which flows beneath the planning area. Any ground water pumping from the carbonate rock in Coyote Spring Valley is likely to affect discharge at Muddy Springs (Burley, 1997).

19.16

Page 3-14, Table 3-3: The first two lines in the table appear to be in error; i.e., it seems inappropriate to identify 0-10 and 1-10 as two separate density classes.

19.17

Page 3-31, Social Setting, Attitude, and Values: The statement made in the seventh sentence seems to contradict item (3) in the sentence that follows that statement; i.e., environmental issues receive little emphasis by residents but the quality of the physical environment is a factor for positive community attributes.

19.18

Page 3-33, Second Paragraph; Page 4-85, Paragraph 5; Page 4-85, Paragraph 9; and elsewhere in the document: The mitigation fee assessed and collected for disturbance of non-Federal lands in Clark County under the habitat conservation plan and associated incidental take permit, is \$550 per acre, not \$647.

19.19

Chapter 4: Environmental Consequences

Page 4-2, Incomplete and/or Unavailable Information, First Paragraph: As discussed during the meeting in Mesquite on August 10, 1998, we recommend that the Bureau include: "While the direct effects to desert tortoise from organized OHV use have been identified, the indirect effects (e.g., noise, vibration, and dust) of OHV activity are not well understood. Similarly, although the effects of driving off-road (i.e., cross-country) are well documented, the direct and indirect effects to desert tortoise that may result from casual and organized low-speed OHV activities on existing roads are not well known."

19.20

Page 4-77, First Paragraph Following Item 3: Mary Allen (1998) conducted a digestibility study on cattle dung relative to desert tortoise. The preliminary trial results indicate that the net digestibility of dung was zero, thus suggesting that the theory that tortoises have benefitted from a symbiotic relationship with cattle and their feces is clearly speculative.

19.21

Page 4-82, Arizona Strip Land Use Amendment and Las Vegas District RMP: Please update these two sections. Biological opinions were issued to the Bureau for the Arizona Strip RMP amendment on January 28, 1998, and the Las Vegas District RMP on June 18, 1998. We suggest including a brief discussion on the preferred alternative for these land use plans.

19.22

Letter 19 Continued

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Page 4-83, first complete sentence: Please clarify this statement. There has not been an interim closure of OHV activity within the Piute-Eldorado proposed Desert Wildlife Management Area (DWMA). For example, in November 1997, the Los Angeles to Barstow dual-sport ride traversed the proposed DWMA as authorized under a biological opinion. Additionally, there has never been, nor has there been proposed, any restrictions on small organized groups (i.e., 25 participants or less) other than remain on existing roads and trails. Please refer to the first paragraph on page 4-85 for further information on road designations and closures.

19.23

Page 4-83, last paragraph: Currently, the fee assessed under section 7 consultation for disturbance of non-critical desert tortoise habitat is \$578 per acre and will be indexed for inflation at the beginning of each calendar year.

19.24

Page 4-89, Harrick Investments (formerly Aerojet): It has come to the attention that Coyote Springs Investment (CDI) has acquired and holds a lease on former Aerojet Corporation lands in Coyote Springs Valley, Nevada. The Final EIS should reflect current information regarding proposed development of private and leased lands by CSI within the planning area.

19.25

Page 4-116, paragraph 4: Please describe suggestions developed at the Boulder City Fire Management Conference that would address the direct and indirect effects discussed in the Fire section, including requirements under section 7.

19.26

Page 4-117, first paragraph: In the Bureau's Las Vegas District, the threshold for issuance of a special use permit for organized OHV events is 26, not 15. We recommend that the Ely District impose a similar policy within ACECS for reasons identified in the second paragraph of that page. The Service does not concur that an unlimited number of organized events within ACECS with up to 50 vehicles constitutes a recovery action.

19.27

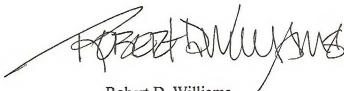
19.28

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Should you have any questions regarding our comments, please contact Michael Burroughs, in our Las Vegas Office, at (702) 646-3499 or me at (702) 861-6300.

A handwritten signature in black ink, appearing to read "Robert Williams", with a long, sweeping horizontal line extending to the left.

Robert D. Williams

cc:

Area Manager, Bureau of Land Management, Caliente, Nevada (Attn: Kyle Teel)

Deputy State Director, Resources, Land Use and Planning, Bureau of Land Management, Reno, Nevada

Assistant Regional Director, Interior Basin Ecoregion, Fish and Wildlife Service, Portland, Oregon

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Literature Cited

- Allen, M. E. 1998. Cattle, Dung and tortoises: symbiosis? Paper presented at the 1998 Desert Tortoise Council Symposium.
- Burby, T.J. 1997. Hydrology and potential for ground-water development, carbonate-rock aquifers, Southern Nevada and Southeastern California. U.S. Geological Survey Water Resources Investigations Report 95-4168.
- Hastey, E., L. K. Rosenkrance, B. R. Templeton, J. M. Parker, W. H. Radtkey, D. L. Harlow, B. D. Taubert, F. Worthley, W. A. Molini, R. D. Radantris. 1991. Compensation for the desert tortoise. A report prepared for the Desert Tortoise Management Oversight Group. November 1991. 16 pp.

Letter 20

Lincoln County Public Lands Commission P. O. Box 690 Pioche, NV 89043

TORTOISE COMMENTS

Mr. Drais,

Thank you for the opportunity to comment the draft plan amendment and EIS for desert tortoise habitat.

ISSUE: Live stock grazing

Livestock grazing will be removed under the preferred alternative based on the assumption that livestock grazing has negative impacts on desert tortoise population recovery. Statements in the amendment suggest livestock grazing has a major negative impact on the recovery of the desert tortoise. Since no scientific documentation has been produced to date supporting this logic, and remarks in the document support other factors as the primary negative influence on the tortoise. In fact the document has conflicting concepts which it presents:

20.1

We are not convinced that the conclusion reached by Bostick (1990) should be dismissed. Anecdotal data indicates that in grazing allotments desert tortoises followed the cattle from one pasture to another. If the conclusions reached by Bostick are wrong then tortoises in areas where cattle grazing has been excluded should be in better condition than tortoises in areas that are grazed. Cattle have been excluded from the Nevada Test Site for forty years. A ten year study of tortoises in Rock Valley within the Nevada Test Site showed the tortoises to be under continual stress (Nagy and Medica (1986) in Bostick (1990). Chapter 3 of the draft EIS discusses the apparent decline of tortoises in the western Mojave especially in and around the Desert Tortoise Natural Area. I assume that grazing was excluded in those areas. Yet during the same period, the relative abundance of tortoises in the eastern Mojave was stable or increased (pg 3-13). During that time grazing was still allowed in the eastern Mojave. Many tortoise biologists have an innate bias against livestock grazing (Sid Sloan for example his is not a scientific bias, but a personal bias that shouldn't have found itself into any permanent documents). Table 3-3 shows the tortoise population in Sand Hollow to be stable. Sand Hollow was actively grazed during the time of the survey. In this case grazing did not seem to negatively impact tortoise numbers. We would think your own documentation would require more specific non-biased monitoring in this final EIS.

20.2

20.3

1) Page 1 - 4, tortoise number declines are "...more recently attributed to localized predation and disease."

If tortoise declines are more attributed to predation, why is so much emphasis placed on livestock removal? Therefore, we suggest focusing management of the tortoise recovery on predation and disease, not livestock removal which due to lack of science appears to be more a personal and political bias against livestock grazing.

20.4

2) Page 3 - 13, "Some researchers warn that while populations in the Northeastern Mojave Recovery Unit do not appear to be undergoing major changes in numbers or densities, populations are dangerously low."

Letter 20 Continued

This idea is cited in a personal letter from Brussard. Where are the supporting studies on population dynamics and trends? Elsewhere in the Draft EIS it is stated that limited scientific research exists on population numbers and trends. Many recommendations in this Draft EIS are based on personal opinion and bias, and the opinions and bias should be assessed accordingly, they are ONLY opinion, not fact based upon scientific research and documentation.

20.5

- 3) Page 3-15 "85% of mortality among hatchlings and juveniles" is due to ravens, and raven population increases are associated with human activities.

If human activities like dumps, power poles are causing 85% of the juvenile losses, then more emphasis should be placed on reducing the human influence or on controlling ravens than removal of livestock.

20.6

- 4) Page 3-16, "No incidence of desert tortoise trampling by livestock have been documented in the planning area."

If there is no documentation of cattle trampling tortoise, shouldn't there be less emphasis on cattle as a negative impact?

20.7

- 5) Page 4-2 States directly there is non conclusive information on the effects of livestock grazing on desert tortoise recovery.

If information on livestock grazing impacts is non-conclusive, how did you draw conclusions regarding impacts of livestock? The discussion you document continues on 4-2 to state that professional judgment of biologists in USFWS, BLM, USGS and Smithsonian support the negative impacts of livestock on tortoise. Who are these biologist and how can they have conclusive views on something on which they have done absolutely NO research? Personal bias shouldn't be determining life and career changing decisions on the part of ANY federal agency. Conjecture and subjectivity instead of research and factual information were utilized to arrive at this flawed conclusion. If there are biologists who support the negative impacts of livestock grazing, present their scientific research and documentation. If there is nothing more than personal opinion, you as an agency have relegated yourself to a special interest group against the livestock industry.

20.8

- 6) Page 4-2, it is stated there is incomplete or unusable information on trend of tortoise populations, and trend information that does exist was collected near urban areas.

Urban areas are much different from rural areas where there is livestock grazing. If decreased tortoise population are in response to human activities, other than grazing, why is this document emphasizing livestock grazing so much? Again, we recommend, focusing on management of the tortoise by eliminating human activities that are documented to be detrimental to the tortoise.

20.9

Letter 20 Continued

7) Page 4-7, it is stated that fewer tortoises would experience malnutrition/osteoporosis if livestock were removed. However, on page 3-13 it is stated that data is lacking to support the contention of correlation of malnutrition to osteoporosis.

The above two statements contradict each other, BOTH can not be true. Several times in your document statements are made about the competition for vegetation between tortoises and livestock and that this competition contributes to the decline (though no trend data exists) in tortoise numbers, yet no real data exists to support these claims.

20.10

Information cited in the Draft EIS supporting the claim of the negative impacts of livestock grazing is most often not peer reviewed scientific journals. The following are given as examples of non-peer reviewed scientific journal citations in the order in which they first appear on page 3-16 through 3-18:

- 1) Oldemeyer 1992, proposal
- 2) Oldemeyer 1994, report
- 3) Hohman and Ohmart 1978 proceedings
- 4) Hohman and Ohmart 1980, report
- 5) Nicholson and Humphreys 1981 proceedings
- 6) Coombs 1979, proceedings
- 7) Berry 1984 report
- 8) Shepherd 1981, proceedings
- 9) Berry and Nicholson 1984 report
- 11) combs, 1977 report
- 12) Nish 1964, Fish and Game publication
- 13) Karl 1981, unpublished report
- 14) Ofidal d Allen 1996 report

20.11

Where are the scientific peer reviewed studies illustrating the negative impacts of livestock grazing on desert tortoise habitat and recovery? Conclusions on livestock removal must be based upon scientific knowledge, not on the less rigorous opinions of biologists. Only a small percentage of citations offered in your draft EIS support negative impacts of livestock grazing are scientific peer-reviewed articles. Some are even unpublished!

Bostic 1990 is cited (peer reviewed article) as suggesting livestock and tortoise do not compete for forage. This paper along with a study by Resource Concepts, Inc. (RCI) unpublished report is dismissed in the Draft EIS as not being supported by tortoise biologists. Again who are your biologists? If their opinions are going to be used against the rural economy, the other side of the coin should be studied and is not at all in this document. Where are any scientific based studies supporting their beliefs? How many has a strong personal bias against livestock grazing? The language in the Draft EIS regarding livestock grazing impacts is subjective and filled with personal opinion, there has no reason for inclusion in the document.

The RCI report, prepared on behalf of size counties in four states, review over 850 documents relating to the desert tortoise. The report substantiates much of the concerns we have with the Draft EIS currently under review, including, the premise that most of the literature available on the

Letter 20 Continued

desert tortoise is non-peer reviewed, and lacks the credibility of scientific peer reviewed literature. Further, that available information on the interaction of livestock and the tortoise is minimal. Finally you fail to even attempt to document that livestock grazing can be conducted in a manner that improves or maintains the ecological condition of site, and that grazing can maintain or improve vegetation and that has been scientifically proven and peer-reviewed.

20.11

Information in the Draft EIS is laden with vague verbiage such as: could, might, less well documented, not well documented, and a variety of such statements. This is not concrete language that can support removal of the livestock from multiple use. causing a loss to the local economy of 13.8% of the total cattle on the land--to your document this is a minimal impact, but in some instances it is 100 percent of the operation. That is indeed a harsh impact where are your economic impact figures. The document is miserably failing in economic data showing current impacts and cumulative impacts due to actions taken upon listing of the tortoise.

20.12

The losses to the community and county have not adequately been addressed or mitigated. The document is completely failing in addressing impacts to local economies, cumulative losses to the county. It is of concern that this nonchalance is prevalent in the BLM towards devastation of the rural economy.

Comments on Statements Contained in Environmental consequences - preferred Alternative Socio-Economic Values From Livestock Grazing Management

1) Page 4-23. The last paragraph and sentence states "The loss of each AUM, however, may be considered equivalent to \$4.50 in net ranch increase (profit after all costs) and approximately \$50.00 in ranch capital asset values."

This statement may be very bold because the values were set by Forest Service and BLM staffers in 1985. What is the confidence interval for these values? The figure ignores cumulative impacts, it also ignores roll over values in the community for dollars spent in the community. The fact is that conservatively, for every dollar spent in a community it rolls over at least 4 times and in smaller communities sometimes as much as 10 times. Every dollar is important in rural communities and the cavalier attitude of BLM towards their impacts on the community are not the attitudes of 'good neighbors'.

20.13

2) Page 4-2. Where is the study that identified that the loss of 12 livestock permits on 9 allotments (seven active permits and seven allotment) will have "...no noticeable reverberation throughout the economy and no noticeable multiplier effect upon purchases and sales, or income and employment.."? This statement sounds once more like personal opinion lacking any basis in fact, produce your economic impact studies.

20.14

3) Page 4-23, the review of the economic impacts within the planning area states that one livestock operator will have a herd reduction as a result of the tortoise habitat recovery plan, and therefore, it would make the operation economically untenable, and result in the abandonment or sale of the business.

20.15

Letter 20 Continued

Sale is not likely an option if you have rendered the operation economically unfeasible by destroying grazing AUM< values. Who exactly will buy a ranch that cannot support a viable operation? Is it acceptable to remove the livelihood of a business just because it is only one rancher? The individual is IMPORTANT> The loss of a single family ranch may not mean much to the BLM or be significant (unless you are that person what if the writer was that person?), but the cumulative loss of small ranchers in the West is atrocious. This draft management plan is just one more example of an attempt to remove livestock from public lands without just cause.

20.16

More comments on economic impacts. Some of the dollar values presented in the economic statements may be too high. When faced with reduction AUM's will the remaining AUM's stay as high in cash market value? These values probably will not stay as high and probably will fall. Buyers may look at a very short pay back period on the allotments if tortoises do not show recovery. If recovery is slow, values will be discounted heavily in the early time periods. Also these programs add to uncertainty and risk for producers that could lower capitalized values of land. This loss in capitalized value would also mean lower property tax revenues to local governments and therefore decreased revenues to local government.

20.17

Consistent failure of BLM and other agencies to admit the economic impacts, or to truthfully study the impacts upon local government and it's future is what lead to the Sagebrush Rebellion. The BLM is not adequately addressing it's economic impact upon the local government in this document or in any past documents. BLM and other federal agencies need to mitigate the cumulative losses of tax dollars, and future tax dollars due to the degradation of the ranching industry in Lincoln County. Please produce the mitigation plan of all impacts to local government since the listing of the Desert Tortoise. Specific the takings of private property, future use and failure to address those impacts in the beginning.

20.18

Comments on Statements in Environmental Consequences - Alternative C

1) Page 4-66, under I, first the document states that the tortoise population is stable but goes on to say populations may not remain stable, may increase or may decline. You make this statement is made under the other alternatives as well. How is this statement made without trend studies supporting the claim and no research to document current impacts that influence tortoise populations? Which is it? Will populations remain stable, increase or decline? If they decline then you have destroyed the cattle industry for nothing and perhaps without studying the possibility that the livestock are a positive in tortoise numbers improving and not decreasing. All three of your statements cannot be simultaneously true. It is exactly this vague failure to document needs of the tortoise and real numbers that give this issue such a political taste.

20.19

2) Page 4-76, states that at this time there are no date showing that continued livestock grazing is compatible with recovery of the desert tortoise. There is also little if any scientific data showing that continued livestock grazing is incompatible with recovery of the desert tortoise. Why isn't the lack of any scientific date also elaborated upon?

20.20

3) Page 4-77, states that the preponderance of scientific evidence indicates that livestock grazing can have a number of different negative impacts to tortoise and its habitat. Yet in the paragraph following this previous statement it is established that evidence is circumstantial that grazing is a major problem for the tortoise. These two statements are contradictory. One either

Letter 20 Continued

has scientific evidence or they do not. Circumstantial evidence —personal opinions and personal biases are not scientific evidence.

20.20

4) Page 4-98, We summed up the total acres under tortoise recovery and came up with 2,324,300 acres. While the planning area covered in this Draft EIS recovery plan may not have a large impact on the livestock industry, it is the cumulative impacts of all habitat recovery efforts that will be felt by the livestock industry. The cumulative impact would not be overlooked.

20.21

Our primary concern with this document is the extreme emphasis placed on livestock grazing as a negative impact on the recovery of the tortoise. Statements in the EIS relative to negative impacts of livestock grazing, for the most part are without any basis in scientific fact. Livestock grazing is an important contributor to the social and economic stability of Lincoln County. Therefore, considerable thought should be given before any livestock reductions are implemented. Within the document there are suggestions that the reductions in grazing will have only minor economic impacts for the area. The problem is that there are many livestock reductions from assorted management approaches, whether at the allotment level or within management areas such as ACEC. It is these cumulative impacts that eat away at the livestock industry, and associated rural economies. We must adamantly oppose livestock reductions when there is no resource or environmental reason supporting your reductions. Therefore, we recommend that livestock not be excluded from the planning area or from those ACEC's within the planning area.

20.22

20.23

20.24

Furthermore, it has been observed by range experts that the exotic annual component of the Mojave desert is here to stay. Exotic annuals increase the potential for wildfire. Wildfire is detrimental to tortoise habitat. In the Mojave, re vegetation is difficult if not impossible in some cases. Grazing has always been a wonderful tool to manage fire fuels. This option should have been included in the analysis.

20.25

Issue: Mining

Your amendment substantially impacts mining and the future of mining in the area, it fails to acknowledge that mineral exploration and operations disturb minimal amounts of land and should not be curtailed. Kane Springs is hardly prime habitat yet the entire valley is closed to oil and gas exploration. This doesn't seem reasonable when a plan of operations can adequately address tortoise issues.

20.26

Issue: ORV use

Off road Vehicle uses are curtailed as are roads and the impacts are minimal on the desert tortoise. The proposal neatly cuts off all north south access for races. It isn't necessary shows a true lack of concern on the BLM's part about economic impacts on the county. Because of a continuing economic decline helped along by BLM decisions, any economic advantage provided by off road races, and other public land event's help to offset the impacts to the local economy by the loss of long term economic benefits due to the loss of ranching.

20.27

Issue: Community expansion

Letter 20 Continued

Pahrnanagat valley has never been and never will be desert tortoise habitat, it gets too cold in the winter and they cannot survive there. How scientific is it exactly to draw a line on a map and determine that tortoise are living right up to the 38th parallel. That is not only not scientific it is not reasonable to assume that the tortoise live along man made lines on maps. We oppose the inclusion of Pahrnanagat Valley as habitat because it is not, it places an unfair burden on the community, adds another layer of government, appears to be an attempt by your agency to take control of the water in the Pahrnanagat Valley area. The 'fingers' of habitat, just 'happen' to take in commercial water rights, private water rights and makes it extremely hard to ignore.

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The inclusion of the community in the habitat area while not critical will not allow for growth without costly hoops to jump through. Residents will be placed under onerous mitigation fees and pay to mitigate a species that doesn't and can't live in or around their community. We propose you take the entire Pahrnanagat Valley out of the habitat area or provide non-biased, scientific evidence that this area has been and remains prime habitat area. Please add the peer-reviewed scientific documentation that validates the inclusion of Pahrnanagat Valley into the planning area or remove the valley so it can grow without the burden's of this proposal.

Issue: habitat

The soils surveys for this area aren't even published, it would appear hasty to make habitat boundaries when you haven't the soils maps and studies to determine where the tortoise CAN live. There are areas in you habitat maps that aren't tortoise habitat and according to your document cannot be. It would seem a reasonable request to see overlays of the information such as soils mapping.

20.29

And a complaint, it was promised to the Lincoln County Public Lands Commission that portions of the amendment would be mailed to them on disk, it was not. The maps and tables would have been useful in our comments, but we had to do without them.

The Public Lands Commission strenuously objects to being noted as a group opposed to recovery of the tortoise. We are not against recovery, we are against false listings using not science. We are not at all against any species, we don't feel however that the animals should be utilized by special interests groups to further their own agenda.

The failure of this document to provide sound scientific proof of any of the claims made in it is of grave concern to us. It shows a political agenda that reflects no concern for the tortoise, but a destruction of all industries Lincoln County depends upon. The document expresses to us a total lack of concern for the future of the multiple use industries dependent upon the public lands and shows the writing agencies to have no concern whatsoever about the communities it is neighbors with. Does the government have a good neighbor policy, it is contained in one or more of the recent executive orders. Furthermore, the executive order on environmental justice was written to defend counties like this one which are economically disadvantaged and should be defended from unfair impacts upon our economy and future.

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We insist on a full NEPA review focusing heavily on the economic impacts past and present. We also insist upon a mitigation plan depicting how BLM plans on mitigating the economic losses to the rural economies they are impacting here. We feel that the tortoise has not been studied by anyone without an anti-cow mentality and therefore there is no honest data regarding what will or

20.33

20.34

Letter 20 Continued

won't affect it. You don't even know any baseline numbers yet make these expansive and seeping cuts in the supporting industry of Lincoln county.

20.35

Finally, it is a sad state of affairs when any agency is so detached from the community it is neighbors with that total loss of economic viability of an operator is considered minimal impact. This failure to recognize the human needs of the community and the complete lack of compassion concerns us about what species is next...such as the willow flycatcher. The agencies have a woeful lack of information yet are forging on in their agenda to destroy multiple use on the public lands.

20.36

It is appalling to see this document's total lack of baseline information. How can BLM produce a quality document without ANY data? How will we know when the tortoise is recovered? It should be mandatory to gather more baseline data before any further actions are taken by any agency. The final document should reflect careful, honest scientific study reviewed by their peers about such drastic actions against the cattle industry. If the nature of the document is scientific, it would seem that scientific data will be earnestly sought, if it is political...it will remain the same as it stands today.

20.37

If the private sector were to produce such a fact deficient document, we would be publicly chastised by your 'experts'. However, we are not allowed to publicly chastise you only point out that in the interest of community survival and a thriving economy and ecology that it would behoove any agency or group with an honest desire to help the tortoise to gather REAL facts, REAL data and show REAL concern for the communities you are proposing to impact.

Sincerely,



Shelley Wadsworth, Secretary

Letter 20 Continued

Plagiarizing your Table S-1 (which you never sent on disk as requested in hearing)

PROGRAM	PROPOSED ACTION
<u>Special Management Areas</u>	No Special Management Areas would be designated.
<u>Wildlife (desert tortoise and other special status species)</u>	<p>Gather Peer-reviewed Scientific data, identifying real baseline numbers, studying interaction with cattle and other multiple users as well as other species. Determine after 10 year study and gathering of facts and data what is necessary.</p> <p>Give honest consideration to no actions if data proves an upward trend without any management alternatives. Delist as soon as upward trend has been documented.</p> <p>Designate Experimental Management zones as needed.</p>
<u>Forestry and Vegetative Products Mgmt.</u>	<p>Study, manage or allow sale of desert vegetation within planning area.</p> <p>Proceed issuance of authorization for surface disturbance with either free use or sale of vegetative products.</p>
<u>Special Status Plant Species</u>	Manage vegetative products in desert tortoise habitat for education, scientific purposes, sale and sustained yield.
<u>Livestock Grazing Management</u>	<p>Conduct Livestock grazing as usual. Study interaction between tortoise and cattle. Gather real data regarding relationship between the two species.</p> <p>All allotments would be open to grazing with no seasonal utilization limits until peer reviewed scientific data is gathered.</p>

Letter 20 Continued

PROGRAM	PROPOSED ACTION
<u>Wild Horse and Burro Management</u>	<p>The Mormon Mountains IIMA will no longer be managed for WH&B (O AML), but will maintain its herd area status.</p> <p>For HIMAs within desert tortoise habitat but outside of ACECs horse and burros would be managed with seasonal utilization limits.</p>
<u>Lands Management</u>	<p>Provide public land for community expansion in the planning area as needed.</p> <p>Pull all ACEC's and habitat designation areas away from every private property-eliminate the appearance of taking of private water.</p> <p>Remove all restraints on community expansion and provide lands for economic development use.</p>
<u>Rights-of-Way Management</u>	<p>Retain the Nevada-Florida Land Exchange (Aerojet) legislatively designated corridor.</p> <p>Locate and designate right-of-way corridors where major rights-of-way exist.</p> <p>Areas outside of corridors within ACECs would be considered rights-of-way avoidance areas.</p> <p>Requests for new material site rights-of-way within ACECs, pursuant to the Federal Aid Highway Act, will be considered within a one-mile wide corridor along designated federal and county roads (Map 2-9).</p> <p>Material site rights-of-way outside of ACECs would be considered on a case-by-case basis.</p>

Letter 20 Continued

PROGRAM	PROPOSED ACTION
<u>Recreation Management</u>	OHV designations are mostly "open" with variations of "limited" in select areas.
<u>Minerals Management</u>	All lands within the planning unit remain open to mineral entry, to fluid and non-energy mineral leasing (except Mormon Caves), to operations of the General Mining Law, and to mineral material disposal.
<u>Fire Management</u>	Full suppression activities with minimum surface disturbance would be used throughout the planning unit. Some suppression

Summary of Impacts

Letter 20 Continued

PROGRAM	PROPOSED ACTION
Total Desert Tortoise Habitat Protected in Special Management Areas	0
Designated Critical Desert Tortoise Habitat Protected in Special Management Areas	0
Management Prescriptions for Tortoise Habitat Outside of Special Management Areas	247,500 acres subject to Section 7 consultation after scientific documentation that tortoise exist there. No additional proposed management
Tortoise Population Trends Within Special Management Areas	Population trends are UNKNOWN, NO ACTION will be taken until studies have been concluded showing actual trend and population data. All data shall be reviewed by peer scientists data shall be gathered without a pre-determined trend in mind.
Ecological Status of Tortoise Habitat	Study Habitat, gather scientific data about the true needs of Desert Tortoise, determine what tortoise really needs, then manage accordingly. Current appearances are the trend is upward.
Number of AUMs reduced	0 Those AUM's that were arbitrarily cut off when the listing occurred will be restored until scientific documentation that they are a detriment to tortoise. All decisions regarding AUM's should be made without BLM bias against the multiple use of public lands.

2038

PROGRAM

PROPOSED ACTION

Letter 20 Continued

Number of allotments closed	0
Number of allotments partially closed	0
Current livestock use acres closed to grazing	None
Current livestock non-use acres closed to grazing	None
Appropriate Management Level (AML) for wild horses	AML should be 0 in every area that the cattle are removed. AML should be along lines set in 1971, if there were no horses then, there should be none now.
Number of Horses Removed	All horses should be removed if the cattle are removed.
Desert Tortoise Habitat; Lands Retention within SMAs	0
Designated Critical Desert Tortoise Habitat; Lands Retention outside of SMAs	0
Desert Tortoise Habitat; Lands Disposal Outside of SMAs	Disposals to be considered on a case-by-case basis for agricultural development and community expansion.
ROWS: Cost to Customer	Least expense; due to ROW located in designated corridors where previous inventories, clearances, and disturbances have occurred
Landfills	BLM shall aid all communities in acquisition, of land fill areas. unauthorized land fills shall be closed.

2038

PROGRAM

PROPOSED ACTION

Letter 20 Continued

Recreation Access and
OHV Use

51,360 acres limited to
existing roads and trails.

OHV Events

754,600 acres open to
OHV events

Minerals

754,600 acres open to
mineral entry. 0 acres
closed to withdrawals.

0 acres open with
restrictions.

No areas shall be closed to any
type of mineral exploration. No additional
cost of operations, no closure of lands
to exploration. No loss of economic
impact to mining industry or
local communities.

Fire Management

Fires will be suppressed to protect
habitat. Protection of private property
will be mandatory. The least expensive
fire fighting techniques will be used.

Studies will determine what is actual
tortoise habitat. Fire suppression will
not take place on any property where
no documentation of tortoise is available.

Letter 21

10633 Shoalhaven Dr.
Las Vegas, NV 89134
(702) 838-7502
August 28, 1998

Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, NV 89301-9408

Dear Mr. Drais:

Although I made verbal comments on June 17, 1998 at the Texas Gambling Hall and Hotel on behalf of the Lower Great Basin Chapter of People For The USA, I did not have anything in writing to give to the BLM at the time. Therefore, I am making the following comments at this time.

My comments will be restricted to matters involving Mining (locatable minerals, fluid minerals, mineral materials and non-energy leasable minerals).

Mining is the second largest industry in the State of Nevada. The current cycle of mining in the State is largely related to gold. As 87% of the State consists of federally administered land, most of the mining activity occurs on existing or former Federal Lands. Gold is largely of the bulk tonnage - heap leachable type and/or "no-see-um" type deposits. These types of deposits and related technology were unknown before 1960.

The point of these facts is that the proposed ACEC at Kane Springs would be closed to mineral entry, to fluid and non-energy mineral leasing, to the operation of the General Mining Law, subject to valid existing rights, and to mineral material disposal. Lack of knowledge does not mean that there is no mineral potential for these lands. If that were true most of the "Carlin Trend" and other gold-trend deposits of Nevada could have been locked up by an ACEC or other withdrawal because of lack of knowledge, and would never have been discovered. Also, 40-60% of the "Basin and Range" topography in Nevada is covered with alluvial fill. Any mineralized rock would be covered and unable to be detected by traditional exploration methods. However, buried deposits have been found such as "Sleeper" and others by using innovation and newly developed techniques. Deposits of evaporates like borate found in Boron, California (largest borate resource in

Letter 21 Continued

the world) could be buried in these valleys waiting for technology to advance enough for discovery.

211

Presently, every man, woman and child of the U.S. utilizes more than 46,000 pounds of mineral material annually to support the American way of life. Blanket removal of mineral entry and extraction from an ACEC does not take into account of its effects on the economy (including small businesses) as it is unknown and does not allow for mitigation, where for other uses it is allowed.

We are quite aware that the purpose of the Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat is structured to propose action in an attempt to balance protection of the desert tortoise habitat while minimizing adverse affects upon other traditional uses of the public lands. However, mining is controlled by a myriad of federal, state, county and regional laws, regulations and restrictions. To our knowledge, mining has never caused any disastrous effects on the tortoise and many areas have been managed through mitigation fees.

From a Mineral Management aspect the Lower Great Basin Chapter of People For The USA can support Alternative A, utilizing the Standard Operating Procedures and Conditions of Operations For Lands and Minerals, as found in Appendix E of the April 1998 Draft Plan.

Thank you for the opportunity to make these comments.

Sincerely,



John O. Landreth
Lower Great Basin Chapter
People For The USA

LETTER 22

August 28, 1998

U.S. Bureau of Land Management
Ely Field Office
Gene L. Drais, Project Manager
HC 33, Box 33500
Ely, NV 89301-9408

RE: Comments: "Draft Caliente Management Framework Plan Amendment and Environmental Impact Statement for the Management of Desert Tortoise Habitat"

Enclosed please find comments on the Reference document which were developed only by representative members of the Mojave-Southern Great Basin Resource Area Council (RAC), as listed on page 4. These comments do not represent the concerns of the entire RAC.

The comments were developed by those so represented after review of the document, visual observations from field trips into the area on two different occasions in conjunction with BLM personnel and from discussions among RAC members, the BLM and public at RAC meetings held in Las Vegas, Caliente and Mesquite, Nevada during the past 5 months.

Basically, it does not appear that the document satisfies all the requirements for the proposed action. Several issues of concern resulted from our review. The following comments, related to these concerns, are forwarded for your consideration in developing the final document for approval. We trust that these comments will be thoroughly evaluated as to substance and intent with action taken where justified.

1. There seems to be a preponderance of recent, and apparently creditable, scientific data with evidence to support various conclusions and recommendations regarding habitat conditions and potential impacts on Desert Tortoise habitat and populations from human activity and grazing. However, the document was observed to have numerous conflicting statements regarding the recommendations and proposed actions with respect to these findings.

As an example, a statement at the bottom of page 4-76 states, "Scientifically based information on the interactions between the desert tortoise and livestock grazing is currently limited and inconclusive." Also, on page 4-77 it states, "Experimental information to assess the effect of livestock grazing on tortoises is lacking".

However, it appears that the results of these studies were discounted as expressed in both paragraphs 3 and 4 on page 4-77 where it is stated that professional opinions of various agencies overrode the studies. It also stated that, based on a 1996 study, studies on the subject of grazing and species declines, were considered difficult, expensive, contentious and indefensible, and therefore, based on "strong circumstantial" evidence from the agencies, grazing was considered to be a major problem. The public needs to know the

22.1

22.2

LETTER 22 CONTINUED

technical explanations as to why the studies conducted outside the agencies were discounted rather than just the political reasons, as presented. Plus, the circumstantial agency evidence needs to be documented in the EIS.

Statements also exist in paragraph 4, page 4-76 indicating that independent studies in 1994 showed that "cattle grazing under certain circumstances can be compatible with desert tortoise survival." However, it is also stated that "domestic cattle grazing is incompatible with desert tortoise recovery." It goes on to say that data is not available on this conflicting issue and that several data gaps exist as to the effects of grazing on tortoise habitat or populations. The question is then what is right? Would it not be prudent to defer any plan development until sufficient studies and data is available?

22.2

Conflicting and other statements of concern also exist on pages 3-31 through 3-34 in regard to Lincoln County employment and income, perception of the ranching industry by the federal government and the economic impacts of grazing permits and appraisals. The severe lack of information and/or existence of incomplete studies resulting in inconclusive evidence as to impacts from human activity and grazing is also expressed in the lower half of page 4-2. Again, what is the right answer?

22.3

22.4

2. As to population numbers and trends, it is stated on the last paragraph on page 4-74 that "Precise numbers of tortoise are unknown to the BLM, NDOW and the USFWS, and population trend information is inconclusive." It also states that "data collected over the last 15 years on the dynamics of desert tortoise populations are insufficient to determine whether a population is stationary, fluctuating stochastically, or undergoing a population trend. (USFWS, p.C8. 1994a)"

The document goes on to say in the first paragraph on page 4-76 that ir-regardless of the lack of exact population numbers, that the "mandate of the BLM is to help recover the species" since the tortoise has been declared by USFWS as a threatened specie. This commitment is understandable, but should not be performed without sufficient data to support conclusions and recommend plans.

22.5

Also, how can a plan be implemented to "recover" the specie when data does not even exist to determine if it is on the decline? Again, the overall "lack of science" to support the recommended plan is a major weakness in the document.

3. A "reserve level management" approach is apparently being proposed by the document, the same method used in California, according to referenced studies by Dr. K. H. Berry, where studies showed, an alarming, nearly 95 percent reduction in tortoise populations. Suggest that additional evaluation be made of this study as to its creditability and changes in the plan be made accordingly, if justified.

22.6

LETTER 22 CONTINUED

4. It is also apparent that a certain amount of bias exists in the overall plan to protect the tortoise in that construction, highway and building projects are allowed to destroy numerous tortoise apparently without requiring replacement or relocation, whereas the ranching and grazing industry, essential to maintain the nations lifestyle and to provide a livelihood, is excessively being controlled. Where does "science" apply here?

22.7

5. According to the document, it is apparent that predation by ravens is a major impact to the desert tortoise populations and trends. The discussion in the document on page 4-99 indicates that raven populations have shown increases in the EIS subject area primarily because of its protection under the Migratory Bird Treaty Act and from the increased number of landfills, nesting sites on transmission lines and increased roadkill on highways. It is reported by the USFWS, that a 15 fold increase has occurred in the Mojave Desert and will continue to do so because of their Federally protected status and other favorable conditions. Other non protected species, who also prey on the desert tortoise, such as the coyote, kit fox, raptors and badgers do not show a parallel increase in populations.

According to the document on page 4-99, a raven control program was reportedly initiated in California in 1994 when over 250 juvenile tortoise shells were found beneath single raven nests. However, the program was dropped due to the public concern for killing the ravens, thus effectiveness of the program could not be evaluated.

22.8

It is glaringly apparent that something needs to be done to control the raven invasion and attack on the desert tortoise even though it is recognized that predation is natures way. The obvious problem is that man has interfered with natures plan by protecting a specie that does not need additional protection due to its inherent wariness, and by doing so has upset the balance of nature. The suggestion is made to petition the USFWS to delist the raven from the Migratory Bird Treaty Act based not only on the evidence from numerous studies on the subject, but from evidence from various other studies which show strong impacts on game bird species from raven activity. This action is especially important if the finding on the bottom of page 4-5 is true, "The implementation of raven control programs alone could reduce the mortality rates among hatchlings and juveniles by as much as 85 percent in some parts of their range. (Berry, 1988.)"

6. As to the subject of road races, to comply with the multiple-use concept and to still provide means to protect the Desert Tortoise, we recognize the need for a race speed corridor from the Mesquite Area into non-ACEC portions of Lincoln County. Possible actions to accomplish this include, adjusting the ACEC boundaries to exclude Toquop Wash and coordinate with Clark County to allow one or two speed events on Half Way Wash road during non-critical tortoise periods. Without supporting any specific solutions, we request that a solution be provided for one high-speed race event corridor during non-critical tortoise periods.

22.9

LETTER 22 CONTINUED

Non-speed events in the proposed ACECs need to be addressed for three(3) specific units as follows:

1. Events in Town Wash should be limited to the same winter months allowed in Arizona.
2. All other designated roads in the Mormon Mesa/Beaver Mountains ACECs should be open with the same seasonal participational use limitations as Clark County.
3. Those designated roads in the Kane Springs ACEC should be evaluated on an individual basis with consideration for both recreational and other needs, including wilderness values.

22. 10

We propose that ACEC boundaries follow natural, observable boundaries rather than geometric boundaries, as shown in some areas. Decisions on ACEC boundaries should be based on "good science"; such as, desert tortoise populations/habitat impacts, other biological issues, the need for the 25 year extension and the need to re-evaluate these conditions on a regular basis or as significant new information is developed filling-in any of the data gaps discussed on page 4-2 of the document.

22. 11

7. The closure of lands (69,500 acres) within the Kane Springs ACEC from mineral entry and economic development as part of the Proposed Action on page S-6 and as discussed on pages 4-12 an 4-13 is of concern due to the currently unknown mineral potential of this area. It is geologically known that a major structural feature, known as the Overthrust Belt, extends through the region along a general north-south trend which is known to contain economic values of fluid and other minerals at locations in NE Nevada, SW Utah and SW Wyoming.

Even though some exploration has been done in adjacent ACEC areas without positive results, it may be just a matter of time until a productive source is found as hinted by the recorded presence of oil seeps and the existence of lead/zinc/silver mineralization in the Mormon Mesa area. These indicators could lead to additional prospecting requests in the future, perhaps extending into the Kane Springs area along the overthrust.

22. 12

Therefore, it is recommended that the Kane Springs ACEC not be withdrawn from mineral entry and exploration because of the future potential for economic development of minerals essential to our lifestyle and the nation. By allowing the area to remain open to the provisions of the Mining Law of 1872, mineral entry into the area can be effectively controlled by the BLM, as is now being done on other mineral entries, through the established Plan of Operation approval system which has proven results and includes reclamation. Access to lease holdings should still be restricted to existing roads and trails unless otherwise authorized.

8. Finally, and of major concern, was the obvious absense of the USFWL at the Public Meetings in Las Vegas and Caliente to support the BLM and answer any public

LETTER 22 CONTINUED

comments on what is essentially a USFWL document. Also, the RAC was very concerned that the USFWL representatives did not attend our meeting in Mesquite on August 11, even though invited by the BLM in their interagency meeting held in Mesquite the previous afternoon after our field trip.

These comments represent the opinions and concerns of the following RAC members only.

Duane L. Whiting - Mining, Chairperson (Supports all comments.)

Marta Agee - Ranching (Supports all comments.)

Jerry Helton - Transportation/ROW (Supports all comments)

Susan Selby - Environment (Supports all comments, excepting No. 7.)

Alan N. Levinson - Permitted Recreation (Supports all comments.)

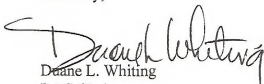
Robert W. Maichle - Recreation (Supports all comments.)

Rey Flake - Livestock (Supports all comments.)

John Jones - State Agency Representative (Supports all comments.)

Thank you for the opportunity to provide comments on this Draft EIS document. We trust that the comments submitted will be fully evaluated and any recommendations incorporated as warranted. Should you have any questions regarding the comments, please contact me at 702-635-5001 during business hours.

Sincerely,



Duane L. Whiting
RAC Chairperson

Cc: RAC Members
BLM Mojave RAC Coordinator

Letter 23

DRAFT

Tortoise LUP Amendment Public Meeting Notes

Las Vegas Public Meeting (June 17,1998)

John Landreth (People for the USA)

Mineral development within ACECs can be compatible with proper management. He favors Alternative A. He is opposed to the proposed mineral closure of the Kane Springs ACEC. Major mineral finds (Carlin, Mountain. Pass, et. al.) wouldn't have been discovered if closures had been in place. The impact of closures to mineral entry of even seemingly unmineralized areas don't account for new technology which would aid in exploration.

23.1

Casey Folks (OHV-Best in the Desert)

OHV users contribute to the economy of Lincoln County. OHV users need corridors to get from Mesquite into Lincoln County, otherwise there would be 100's of square miles of public land blocked from OHV use. The corridors being considered are not pristine habitat, they are already high speed, county maintained roads; Kane Springs Wash, Meadow Valley Wash, Carp Elgin and Halfway Wash Road. He proposed that 2 corridors (Halfway Wash and Carp-Elgin roads) be fenced to exclude tortoise and remain open to speed events. The other corridors proposed in the plan should remain open but not for speed or competitive events. Access from I-15 is important for the OHV community. The Caliente Plan and the Clark County Plan should match up in order to avoid confusion.

23.2

23.3

Bob Maichle (VP of MORAN but speaking for the tortoise)

The existence of Toquop Wash with its steep terrain between the Mormon Mesa tortoise population and the Beaver Dam population effectively isolates these two populations. There exist two separate populations. The Toquop Wash should be non-ACEC because there is no tortoise habitat there and no opportunity for travel between the two proposed ACECs. Toquop Wash should be removed from its proposed ACEC status and identified as a speed corridor. Kane Springs should not be withdrawn from mineral entry. If the BLM can protect the other two ACECs without mineral withdrawal, why would the Kane Springs need to be withdrawn? "BLM should not support the USFWS anti-OHV agenda." Wants to develop ACECs with good science. ACEC boundaries should reflect the good tortoise habitat. The straight lines on the map for ACEC boundaries are a sign of political decisions, not reality or good science. In his communication with Senator Reid's office the problem is not with the Endangered Species Act itself but with the USFWS abuses in application of the Act. We need multiple identified corridors

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23.6

Letter 23 Continued

revised
for OHV use. During the times of year that the tortoise is underground the BLM should be less restrictive. He supports the position identified by Casey Folks. He supports Alternative A.

23.6

Sallie Clinard

The primary threats to tortoise are ravens and URTD. She questions whether lightly used roads could threaten tortoise. Suggests use of satellite imagery to identify roads. She does not believe we need road closures. If the BLM has to designate roads as open or closed, the BLM needs to do a better job of identifying roads than was done in the El Dorado Valley where existing roads in use were simply overlooked in the inventory.

23.7

23.8

Don Dayton

The OHV corridors should be consistent between BLM Districts and, more importantly, should be consistent with the ongoing OHV Planning Group effort which is a group consisting of the USFWS, BLM and OHV representatives. He believed that the USFWS, BLM and OHV users had reached an agreement but this was disregarded during finalization of the Clark County MFP and the USFWS Biological Opinion. What is currently in the Clark County MFP and the Biological Opinion is bad for the OHV users since it is overly restrictive. The recommendations of the group need to be used in the Caliente and Clark County planning efforts. Closing of roads locks out the disabled from the backcountry. The nebulous reasoning of "fragmentation of habitat" is not a good enough reason to close roads. If roads are to be closed it must be for legitimate, scientific reasons. Many of the existing roads go to guzzlers which need regular maintenance. Any designation of roads should be done through an open, public process. He supports Casey Folks and Bob Maichle's ideas.

23.9

23.10

Letter 23 Continued

Caliente Public Meeting (June 18, 1998)

Rey Flake (RAC and Lincoln County)

Mr. Flake wanted it written into the record that it was inappropriate and wrong that the USFWS did not attend this public meeting which was about implementing their Recovery Plan.

Marta Agee (RAC)

Agreed with Mr. Flake and wanted it noted that the entire group felt the same way.

Quentin Perkins (Lincoln County Public Lands Commission)

Wanted to know why the area north of Mesquite was not identified as critical habitat?

23.11

Bradley Hunt (Lincoln County Public Lands Commission)

Yielded his public comment time.

Shelley Wadsworth (Lincoln County Public Lands Commission)

The economic analysis is inadequate. We need to address economic impacts to the livestock industry that occurred prior to this amendment. The ranchers AUMs have been cut for a variety of reasons over the years and this has had an additive impact. She sees this effort as a giant land grab. The impacts of radiation in southern Lincoln County should have been included. There is inadequate science available to even write the LUP Amendment. The agencies need better information to do a proper plan and she would require the USFWS to cooperate better with the folks in Lincoln County. She is on the Recovery Team for the SW Willow Flycatcher. In this effort they have designated small recovery areas. As recovery occurs these small recovery areas will be "released". A similar type of more reasonable approach should be considered for the tortoise rather than requiring recovery on a Recovery Unit basis. There should be developed a mitigation plan to the county government for changing the public lands from multiple to single use.

23.12

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23.14

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23.16

Connie Simkins (Grazing Boards N-4 and N-5)

Man is a higher priority than tortoise. The Caliente ranchers already went through the Caliente LUP and they were promised money for improvements if they cooperated and went through the land use planning process. Now, instead of putting in range improvements the BLM is just doing monitoring. The cowboys don't feel like they can make a difference. Nineteen allotments are affected by the amendment with 25 individuals and 37,000 AUMs.

23.17

Letter 23 Continued

Would like an explanation in the land use plan of how livestock grazing will be returned to the allotments after de-listing of the tortoise. Will the ACECs disappear after de-listing? Clark County is only 65% Federal lands while Lincoln County is 98% Federally managed. The whole recovery effort is to allow Clark County to develop economically. Clark County is motivated by money, not science. We should be careful not to do the same. BLM needs more monitoring of habitat. The two utility or ROW corridors identified in the plan are already in existence. Having only two corridors unnecessarily limits growth. Need more utility corridors proposed in the plan including a natural gas corridor through Rainbow Canyon to Hiko, Alamo, and Caliente. Changes in AUMs effect everyone, not just ranchers. Will provide written comments.

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23.22

Jule Wadsworth (Lincoln County Public Lands Commission)

Requests that an overlay of soils maps be a part of our analysis, because tortoises require certain types of soils for burrowing. There should be a baseline census of the existing tortoise population. Wants to know how many tortoises are there now, and how many there needs to be for recovery. The grazing analysis is based on a flawed premise; that we can bring back the perennial vegetation by eliminating grazing. We are stuck with exotic annuals. Bostick, and old cowboys say tortoises follow cows around. The tortoises would likely follow them outside of the ACECs. The USFWS has a reputation for not using good science in their recovery plans.

23.23
23.24
23.25

Del Haas (RAC)

She is concerned for the future of Lincoln County and the impacts of the plan on potential for economic development. There should be more emphasis in the plan on "minimum adverse effects on traditional uses". It is wrong that all other uses must take a backseat to the tortoise. Have water rights been addressed? Water rights are a private property right, and people should be compensated for their losses. Concerned with loss of tax revenue. County relies on people for traditional purchases. People might begin to move this way if we don't close everything. Concerned about 25 year period as too long to keep the ACECs locked up. Areas should be opened up sooner to grazing as data shows the tortoise has recovered. Why are so many acres needed for ACEC designation? There are already too many tortoises at the Desert Tortoise Center.

23.26
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23.30

Marta Agee (RAC)

There is not adequate science to do this plan. When do we have enough tortoises? Do ACECs exist beyond de-listing? On page 4-93, why does the loss of 121,000 acres not affect the tortoise? If reducing livestock numbers benefits tortoise, why haven't there already been increases in tortoise numbers? Page 4-67 contradicts 4-99. BLM will need to maintain range improvements

23.31
23.32
23.33

Letter 23 Continued

in ACECs instead of letting ranchers do it. This should be added to the economic analysis. It would be cheaper for the ranchers to maintain these improvements. Would like to reinforce the concept of multiple use in light of the economy of Lincoln County. Lives of people in Lincoln County are in greater jeopardy than tortoise. Does recovery by discovery meet de-listing objectives. Does speaking in these meetings protect legal standing? What other things will we find to limit multiple use in these areas after the tortoise is delisted? 23.33
23.34
23.35

Rey Flake (RAC and Lincoln County)

Wanted it in the record that USFWS was not in attendance, and they are responsible for the recovery plan. Took that as personal affront to the people of Lincoln County. He noted that the meeting did not start with a Pledge of Allegiance to the Flag and hoped that it wouldn't happen again. This amendment is an assault on multiple use and suffers from a lack of science. He appreciates the Ely District BLM considerations regarding multiple use in the plan. What is the cost of recovery? Cost of monitoring? Cost of the amendment? Is the amendment a line item in the budget or does it use money intended for other uses. Lincoln County HCP is needed to aid economic development of county. The desert tortoise population is at the highest level ever in Lincoln County. The Amendment establishes large tracts for a single use for tortoise. He suggested that to be fair there should be set asides of single use livestock grazing areas. Would like it specifically addressed what it would cost the taxpayers to administer this tortoise program. Why is BLM becoming a regulatory agency, instead of a land management agency? 23.36
23.37
23.38
23.39
23.40

Laren Flake (Lincoln County Public Lands Commission)

Has economic concerns for Lincoln County. People are more important than tortoise. The economic concerns have not been adequately addressed. He referenced page 1-1 which states the Recovery Plans are not binding on the land management agency, and there is flexibility in their application. Questions whether it is really necessary to set aside that much land as ACECs for the tortoise; 22% of land set aside within the planning unit. Page V states that multiple use will be allowed where compatible with tortoise, but this was not done in the plan. Recovery should be better defined; if we are really going to measure success we need to specify what the monitoring program is. Table 3-4 says populations are stable or increasing, so why should we fix it? When does the 25 year period begin? How will BLM enforce road restrictions? What is the economic cost of writing this plan? 23.41
23.42
23.43
23.44
23.45

Maurice Frank (Yomba Shoshone Tribe and RAC)

BLM has a trust responsibility with Indian tribes. He disagrees that there are no cultural concerns with Indians. The desert tortoise is important to the Southern Paiute people, and the BLM 23.46

Letter 23 Continued

should work more closely with the Moapa Paiute Tribe. ^{Band of} The ^{and the Santa Clara Band of} Federal government is mandated to consult with Indian tribes. ^{Paiutes} There are indeed cultural concerns. | 23.46

Bob Maichle (OHV constituents on RAC)

Speaking for OHV community but in defense of tortoise. URTD and ravens have had a dramatic effect on tortoise. Van Dyke didn't see ravens when he first entered the Mojave Desert. Man is responsible for the increase of the tortoise's primary predator, the raven. The real key to the demise of the tortoise is discussed on page 4-99 of the Amendment in the discussion of predation. Urban expansion has impacted tortoise, especially the growth of Las Vegas. He supports fencing of 2 roads for speed events. Proposes a Tortoise DMZ in the Toquop Wash. This effort needs to be based on good science; "When bias replaces science in endangered species recovery, we lose." | 23.47
| 23.48
| 23.49
| 23.50

Duane Whiting (Nevada Mining Association constituents on RAC)

He disagrees with the need for a Kane Springs ACEC mineral withdrawal. The ACEC should be managed like the others. The Overthrust Belt goes through there, and you never know what you'll find with new technology. A Plan of Operation under the mining law would allow mining and provide protection for the tortoise. ~~Predators are the real problem. Studies around Beatty showed 200-300 baby tortoise shells under raven nests. It is wrong to place protection of T & E species over the Human Species trying to make a decent living.~~ | 23.51

Connie Simkins

Questioned how NDOW and the military is included in this planning effort. Felt that fires caused by military planes would impact tortoise. Suggested that the BLM look into the "Keystone Dialogue" on the Test Site and the of establishment of buffer zones. | 23.52

Jim Logan

The analysis downplays the significance of the ranchers to the economic health of Lincoln County. Spin-off effects his business dramatically. BLM has already whipped the ranchers and they've given up, that's why they didn't show up for this meeting. BLM has been cutting AUMs since 1978. | 23.53

Letter 24

Public Comments
on the
Draft Caliente Management Framework Plan Amendment
and
Environmental Impact Statement
for the
Management of Desert Tortoise Habitat

Name:

DEAN WALTERS (MORAVE RAC)

Address:

Box 2126
UNMCA, NV 89446

Phone:

Comment:

24.1

RECOMMEND DELETING WITHDRAWAL PROVISION FROM KANE SPRINGS ACEC AND ALLOWING THESE LANDS TO REMAIN OPEN TO MINERAL ENTRY, FLUID AND NON ENERGY MINERAL LEASING UNDER PROVISIONS OF THE 1872 GENERAL MINING LAW. (INSUFFICIENT DATA EXISTS TO SUPPORT FULL WITHDRAWAL, PLUS THE POTENTIAL DOES EXIST FOR MINERAL PRESENCE DUE TO ITS GENERAL LOCATION WITHIN THE GEOLIC OVERTHrust BELT, YET TO BE DEFINED, BUT KNOWN TO BE MINERALIZED AT OTHER LOCATIONS ALONG ITS TREND.)

Signature:

Dean Walters

Date:

6-18-98

Letter 25

Public Comments
on the
Draft Caliente Management Framework Plan Amendment
and
Environmental Impact Statement
for the
Management of Desert Tortoise Habitat

Name: MARK TRINKO

Address: CLARK COUNTY ACP - IAM committee
724 STRAIGHT ST
LAS VEGAS, NV 89110

Phone: _____

Comment:

25.1 While the 6 Jeep type clubs & MANY ATV/MOTORCYCLE CLUBS CURRENTLY USE THE MAJORITY OF THE ROADS IN THE MORMON MESA ACEC EACH WEEKEND WITH LESS THAN 49 VEHICLES, WE ARE WILLING TO LIMIT OUR PERMITTED EVENTS TO THE CORRIDORS OUTLINED IN YOUR APRIL 98 DRAFT IN EXCHANGE FOR OUR "UP FRONT" PARTICIPATION IN ROAD DESIGNATIONS FOR CASUAL USE.

Signature: Mark JB

Date: 6-17-98

Letter 26
Public Comments
on the
Draft Caliente Management Framework Plan Amendment
and
Environmental Impact Statement
for the
Managment of Desert Tortoise Habiata

Name: Sally Curried

Address: 4455 W. Ford Ave

Las Vegas, NV 89137

Phone: _____

Comment:

- 26.1 ① Plan must address the roven problem and respiratory disease, which effect tortoise population more across their habitat
- 26.2 ② Is there scientific data which shows lightly used roads and trails affect tortoise population in a significant manner?
- 26.3 ③ If travel is restricted to existing roads and trails, then Satellite imaging must be done to make sure all are identified. This should be done in conjunction with GPS surveys.
- 26.4 ④ For non-competitive travel, there is no need for designated routes, just limit travel to existing roads and trails

Signature: Sally Curried

Date: 6/7/78

Letter 27
Public Comments
on the
Draft Caliente Management Framework Plan Amendment
and
Environmental Impact Statement
for the
Management of Desert Tortoise Habitat

Name: _____

Tracy Cantor

Address: _____

2013 Angel Falls Dr

Henderson NV 89014

Phone: _____

Comment:

27.1 |

1, Your plan To be Consistant with Clark County

27.2 |

2, Corridors are very important In HCEC.

27.3 |

3, Tencoop wash would , it opened will give relief
From The East Side To The west side of
Mormon Mesa.

27.4 |

4, Scout, lite & migaine of L.P.S. Road To be
Studyed and Identified for Road & Trails
for C.H.V.

5, I would like to be involved In The
L.P.S of Field search for Roads & Trails
Please call me

Signature: _____

Tracy Cantor

Date: _____

6-17-98

Letter 28

Public Comments
on the
Draft Caliente Management Framework Plan Amendment
and
Environmental Impact Statement
for the
Management of Desert Tortoise Habitat

Name: Susan Messler - PFUSA

Address: 2901 Holmes St.

NV NV 89030

Phone: _____

Comment:

28.1 Comments regarding mineral withdrawal of Kane Springs ACEC-
future technology of minerals location + exploration is
unknown, therefore it would be a threat to county, state and
federal future revenue to withdraw future minerals exploration
Exploration is currently allowed within ACECs under strict
management. I request maintaining mineral exploration in Kane
Springs ACEC.

28.2 Regarding future road closures, I request that all road closures
are based on scientific studies and that they occur through
the public process and follow existing K.S.2477 rules.

Signature: Susan Messler

Date: 6/17/98

Letter 29

Public Comments
on the
Draft Caliente Management Framework Plan Amendment
and
Environmental Impact Statement
for the
Management of Desert Tortoise Habitat

Name: Manice G. Frank (MANICE G. FRANK)

Address: 116 61 Box 6208

Angon NV. 89310

Phone: _____

Comment: BLM has trust obligations to consult with Native Americans -
"Consultation" is not just a one time visit to a Tribal Council
meeting or a phone call. They should "consult" through out
the entire process.

Cultural resources that may be impacted is not
addressed.

Desert tortoise use with whether cultural or ceremonial
or for food use is not addressed.

Need more Native American consultation

(I'll send documents supporting Native American use.)

Signature: Manice G. Frank

Date: _____

29.1
Endangered Species Act
also mandates Native American
interests & consultation.

Letter 30

From: Gene Drais
To: Tortoise Core
Date: Fri, Jun 26, 1998 2:31 pm
Subject: Public Comment

I received a phone call from Mildred Fay, P.O. Box 464, Panaca, Nevada 89042 today. She had the following to say:

Generally, if the tortoise are left alone, they would be fine. She questions the need for their protection.

She lived in Las Vegas a few years back when the tortoise were being collected and moved to the shelter. Some of them were needing to be put to sleep. Others got entangled in the plastic snow fence that was stretched along Lake Mead.

She also feels issues like this one about protecting the tortoise should be put to a vote of the people.

30.1

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ACRONYMS AND ABBREVIATIONS

ACEC	Area of Environmental Concern
ALJ	Administrative Law Judge
AML	Appropriate Management Level
AUM	Animal Unit Month
BLM	Bureau of Land Management
BRD	Biological Resource Division
DLE	Desert Land Entry
DOE	Department of Energy
DWMA	Desert Wildlife Management Area
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMZ	Experimental Management Zone
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESI	Ecological Site Inventory
FCC	Federal Communication Commission
FLPMA	Federal Land Policy and Management Act
GIS	Geographical Information Systems
HA	Herd Area
HCP	Habitat Conservation Plan
HMA	Herd Management Area
HMP	Habitat Management Plan
IBLA	Interior Board of Land Appeals
IMP	Interim Management Policy for Lands under Wilderness Review
IRM	Information Resources Management
MFP	Management Framework Plan
MOG	Desert Tortoise Management Oversight Group
NDOT	Nevada Department of Transportation
NDOW	Nevada Division of Wildlife
NEPA	National Environmental Policy Act
NPS	National Park Service
NRA	National Recreation Area
NTS	Nevada Test Site
OHV	Off-Highway Vehicle
PEP	Potassium Excretion Potential
PNC	Potential Natural Community
R&PP	Recreation and Public Purposes Act
RMP	Resource Management Plan
SMA	Special Management Area
SWA	Site Write Up Area
SWIP	Southwest Intertie Power Project
TMA	Tortoise Management Area
URTD	Upper Respiratory Tract Disease
USFWS	U.S. Fish and Wildlife Service
WSA	Wilderness Study Area

GLOSSARY

ACTIVE PREFERENCE: The total number of AUMs of forage that can be licensed.

AIR QUALITY: A measure of the health-related and visual characteristics of the air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

AIR QUALITY CLASS I AND II AREAS: Regions in attainment areas where maintenance of existing good air quality is of high priority. Class I areas are those that have the most stringent degree of protection from future degradation of air quality, such as National Parks. Class II areas permit moderate deterioration of existing air quality, such as lands administered by the Bureau of Land Management (BLM).

ALLOTMENT: An area of land designated and managed for grazing of livestock.

ALLOTMENT MANAGEMENT PLAN (AMP): A documented program developed as an activity plan, consistent with the definition at 43 U.S.C. 1702(k), that focuses on, and contains the necessary instructions for, the management of livestock grazing on specified public lands to meet resource condition, sustained yield, multiple use, economic and other objectives.

ALTERNATIVE: One of at least two proposed means of accomplishing planning objectives.

ANALYSIS: The examination of existing and/or recommended management needs and their relationships to discover and display the outputs, benefits, effects, and consequences of initiating a proposed action.

ANIMAL UNIT MONTH (AUM): The amount of forage necessary for the sustenance of one cow or its equivalent (one cow, bull, steer, heifer, horse, burro, mule, 5 sheep, or 5 goats, over the age of 6 months at the time of entering the public lands or other lands administered by BLM) for a period of 1 month.

ANNUAL PLANT: A plant that completes its life cycle and dies in 1 year or less.

ARCHAEOLOGY: The scientific study of the life and culture of the past, especially ancient peoples, as by excavation of ancient cities, relics, artifacts, etc.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC): An area of public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life/provide safety from natural hazards.

AREAL RIGHT-OF-WAY: Rights-of-way that are not linear in nature. Site rights-of-way generally described in acres rather than length and width. Examples of these type of rights-of-way are communication sites, material sites, pumping station and reservoirs.

AVOIDANCE AREA: An environmentally sensitive area where rights-of-way would be granted only in cases where there is a prevailing need and no practical alternative location exists, and then only with appropriate provisions to protect the sensitive environmental components.

BACKFIRING: A fire set along the inner edge of a control line to consume fuel in the path of a fire.

BURNING OUT: Setting a fire inside a control line to consume fuel between the edge of the fire and the control line. Burning out removes the danger of fuel near the line burning at a later date when no one is around, or when conditions are such that flareups near the line would spot across the line.

CANDIDATE SPECIES: Any species of plant or animal listed in the for consideration to be listed as threatened or endangered by U.S. Fish and Wildlife Services under the Endangered Species Act. Definitions for Categories 1 and 2 candidate species, excerpted from the *Federal Register*, are as follows:

Category 1: Taxa for which the USFWS currently has on file substantial information on biological vulnerability and threat(s) to support the appropriateness of proposing to list them as endangered or threatened species. Presently, data are being gathered concerning precise habitat needs, and for some of the taxa, concerning the precise boundaries for critical habitat designations. Development and publication of proposed rules on these taxa are anticipated, but, because of the large number of such taxa, could take some years.

Also included in category 1 are taxa whose status in the recent past is known, but that may already have become extinct.

Category 2: Taxa for which information now in possession of the USFWS indicates that proposing to list them as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threat(s) are not currently known or on file to support the immediate preparation of rules. Further biological research and field study usually will be necessary to ascertain the status of the taxa in Category 2, and some of the taxa are of uncertain taxonomic validity. It is likely that some of the taxa will not warrant listing, while others will be found to be in greater danger of extinction than some taxa in category 1.

CLASS OF LIVESTOCK: Ages and/or sex groups of a kind of livestock.

CORRIDOR: A strip of public land forming a passageway between two points in which transportation and/or utility systems exist or may be located. A designated corridor is the preferred location for existing and future rights-of-way grants that has been identified by law, by Secretarial Order, through land use planning, or by other management decision.

CRITICAL HABITAT: Any air, land, or water area including elements thereof, which have been determined (and published in the Federal Register) to be essential to the survival of wild populations of an endangered or threatened species or to be necessary for their recovery to a point at which the measures provided pursuant to the Endangered Species Act are no longer necessary.

COORDINATED RESOURCE MANAGEMENT AND PLANNING (CRMP): A resource planning process, an approach to solving resource problems.

CULTURAL RESOURCES: Those resources of historical and archaeological significance.

CUMULATIVE IMPACTS: Cumulative impacts result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts could result from individually minor, but collectively significant actions, taking place over a period of time (Council on Environmental Quality, Regulations for Implementation of NEPA, 1508.7).

DESERT WILDLIFE MANAGEMENT AREA: Designated areas in which protective management actions would be implemented to provide for the long-term persistence of viable desert tortoise populations and the ecosystems upon which they depend.

- DESIGNATED RIGHT-OF-WAY CORRIDOR:** A parcel of land, either linear or areal, that has been identified by law, by Secretarial Order, through the land use planning process, or by other management decision, as a preferred location for existing and future rights-of-way grants and suitable to accommodate more than one type of right-of-way or one or more rights-of-way which are similar, identical, or compatible.
- DISTANCE SAMPLING:** Distance sampling provides a way to obtain reliable estimates of density (rather than just a crude index to density) of tortoises under fairly mild assumptions.
- ECOLOGICAL CONDITION:** The present stage of vegetation of a range site in relation to the climax (natural potential) plant community for that site. Condition is expressed as excellent, good, fair, or poor.
- ECOLOGICAL SITE:** A kind of rangeland with a specific potential natural community and specific characteristics, differing from other kinds of rangeland in its ability to produce vegetation and to respond to management. Ecological sites are defined and described with soil, species composition, and production emphasis. Ecological site is synonymous with range site and ecological type (FS).
- ECONOMIC IMPACT:** The change, positive or negative, in economic conditions (including distribution and stability of employment and income in affected local and regional economies) that directly or indirectly result from an activity, project, or program.
- ECOSYSTEM:** A complex self-sustaining natural system which includes living and nonliving components of the environment and the circulation of matter and energy between organisms and their environment.
- ENVIRONMENTAL ASSESSMENT (EA):** A concise public document for which a Federal agency is responsible that serves to: (a) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact; (b) aid an agency's compliance with the National Environmental Policy Act (NEPA) when no environmental impact statement is necessary; (c) facilitate preparation of a statement when one is necessary. An EA includes brief discussions of the need for the proposal, of alternatives as required by SEC. 102 (2) of NEPA, of the environmental impacts of the proposed action and other alternatives, and a listing of agencies and persons consulted.
- ENVIRONMENTAL CONSEQUENCE:** A temporal or spatial change in the human environment caused by an act of man. The change should be (1) perceptible, (2) measurable, and (3) relatable through a change agent to a proposed action or alternative. A consequence is something that follows an antecedent (as a cause or agent). Consequences are synonymous with impacts and effects.
- ENVIRONMENTAL IMPACT STATEMENT (EIS):** A written analysis of the impacts on the environment of a proposed project or resource management plan.
- ENDANGERED SPECIES:** Any animal or plant species in danger of extinction throughout all of a significant portion of its range. These species are listed by the United States Fish and Wildlife Service.
- EXISTING RIGHT-OF-WAY CORRIDOR:** A parcel of land, without fixed limits or boundaries, that is being used as the locations for one or more rights-of-way.
- EXPERIMENTAL MANAGEMENT ZONES:** Area within a tortoise Special Management Area (a maximum of 10 percent) where certain prohibited activities (e.g., intrusive research on desert tortoises may be permitted on an experimental basis during the recovery period).

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA): Public Law 94-579, which gives the BLM legal authority to establish public land policy, to establish guidelines for administering such policy and to provide for the management, protection, development and enhancement of the public land.

FIRE MANAGEMENT PLAN: An activity plan developed to support and accomplish resource management objectives and applicable land-use decisions authorized in BLM Resource Management Plans. Establishes basic direction for the fire management program, identifies priorities for execution, and determines levels of fire resources (personnel, engines, aircraft, and facilities), including an economic analysis.

FORAGE: Vegetation of all forms available and of a type used for animal consumption.

FORB: (1) Any herbaceous plant other than those in the Gramineae (true grasses), Cyperaceae (sedges), and Juncaceae (rushes) families, i.e., any nongrass-like plant having little or no woody material on it; or (2) a broadleaved flowering plant whose above-ground stem does not become woody and persistent.

GRASS: Any plant of the family Gramineae.

GRAZING ALLOTMENT CATEGORIES: Direction under which all grazing allotments are categorized for management purposes into three groups. The overall objectives are: M-maintain the current resource conditions; I-improve the current resource conditions; and C-custodial manage the existing resource values.

GRAZING PERMIT: A document authorizing use of the public lands within an established grazing district. Grazing permits specify all authorized use including livestock grazing, suspended use, and conservation use. Permits specify the total number of AUMs apportioned, the area authorized for grazing use, or both.

GRAZING PERMIT VALUE: BLM allocated AUMs may be transferred from one operator to another. The dollar value given by one operator (buyer) to induce a present permit holder (seller) to transfer his permit is known as the "permit value" of an AUM. This "permit value" may have a significant bearing on the rancher's capital value.

GRAZING PREFERENCE or PREFERENCE: A superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by a permittee or lessee.

GRAZING SYSTEM: A prescribed method of grazing a range allotment having two or more pastures or management units to provide periodic rest for each unit.

HABITAT: A specific set of physical conditions that surround the single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

HAZARDOUS WASTE OR MATERIAL (HAZMAT): Any substance that poses a threat to the health or safety of persons or the environment. These include any material that meets or exceeds the standard for toxic, ignitable, corrosive, or radioactive (40 CFR 261).

HABITAT MANAGEMENT PLAN (HMP): A plan for a geographic area of public lands which identifies wildlife habitat management actions to be implemented to achieve specific objectives.

HERD MANAGEMENT AREA PLAN (HMAP): A written and officially approved plan for a specific geographical area of public land which identifies wild horse (or burro) herd use areas and habitat, identifies population and

habitat objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

IMPACT: Synonymous with effects. Includes ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Impacts may also include those resulting from actions which may have both beneficial and detrimental (adverse) effects. Impacts may be considered as direct, indirect, or cumulative:

Direct: Impacts caused by an action and occurring at the same time and place.

Indirect: Impacts caused by the proposed action and occurring later in time or farther removed in distance, but are still reasonably foreseeable.

Cumulative: Those which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions.

INTERIM MANAGEMENT POLICY (IMP): An interim measure governing lands under wilderness review. This policy protects Wilderness Study Areas from impairment of their suitability as wilderness.

INVENTORY: The systematic acquisition and analysis of information needed to describe, characterize, or quantify resources for land-use planning and management of the public lands.

KEY FORAGE SPECIES: (1) Forage species whose use serves an indicator of the degree of use of associated species. (2) Those species which must, because of their importance, be considered in the management program.

KIND OR CLASS OF LIVESTOCK:

Kind: The species of domestic livestock-cattle and sheep.

Class: The age class (i.e. yearling or cows) of a species of livestock.

LAMBDA: Is a numerical number associated with the growth rate of a population. For example if the Lambda of a population is 1.0 then that population is maintaining a stable population size. If lambda is less than 1.0 the population is declining and if it is greater than 1.0 then that population is increasing.

LAND DISPOSAL: A transaction that leads to the transfer of title of public lands from the federal government.

LAND USE PLAN: A plan that reflects an analysis of activity systems and a carefully studied estimate of future land requirements for expansion, growth control, and revitalization or renewal. The plan shows how development in the area should proceed in the future to ensure the best possible physical environment for living, the most economic and environmentally sensitive use of land, and the proper balance in use from a cost revenue point of view. The land use plan embodies a proposal as to how land should be used in the future, recognizing local objectives and generally accepted principals of health, safety, convenience, economy, and general living amenities.

LEASABLE MINERAL: A mineral such as coal, oil, shale, oil and gas, phosphate, potash, sodium, geothermal resources, and all other minerals that may be developed under the Mineral Leasing Act of 1920, as amended.

LIVESTOCK or KIND OF LIVESTOCK: A species of domestic livestock-- cattle, sheep, horses, burros, and goats.

LIVESTOCK PERMITTEE: A person or organization legally permitted to graze livestock on public lands.

LOCATABLE MINERAL: Any valuable mineral that is not saleable or leasable including gold, silver, copper, uranium, etc., that may be developed under the General Mining Law of 1872.

MANAGEMENT FRAMEWORK PLAN (MFP): A land use plan for public lands administered by BLM which provides a set of goals, objectives, and constraints for a specific planning unit or area; a guide to the development of detailed plans for the management of each resource. This form of plan is now being replaced with Resource Management Plans.

MINERAL ENTRY: The ability to enter land and prospect, explore, and develop mineral properties.

MINERAL MATERIALS: Refer to saleable minerals.

MINERAL POTENTIAL:

High: The geologic environment, the inferred geologic processes, the reported mineral occurrences and/or valid geochemical/geophysical anomaly, and the known mines or deposits indicate high potential for accumulation of mineral resources. The "known mines and deposits" do not have to be within the area that is being classified, but have to be within the same type of geologic environment.

Moderate: The geologic environment, the inferred geologic processes, and the reported mineral occurrences or valid geochemical/geophysical anomaly indicate moderate potential for accumulation of mineral resources..

Low: The geologic environment and the inferred geologic processes indicate low potential for accumulation of mineral resources

MINIMAL SURFACE DISTURBANCE: The amount of surface disturbance that is needed to complete the project only. No additional surface disturbance is authorized. The amount of disturbance is project specific.

MITIGATING MEASURES: Constraints, requirements, or conditions imposed to reduce the significance of or eliminate an anticipated impact to environmental, socioeconomic, or other resource value from a proposed land use. Committed mitigating measures are those measures BLM is committed to enforce, i.e., all applicable laws and their implementing regulations.

MULTIPLE USE: Multiple use is the management of public lands and their various resource values so that they are used in the combination that will best meet the present and future needs of the American people. Relative values of the resources are considered. Multiple use does not necessarily result in the combination of uses that will give the greatest potential economic return or the greatest unit output, nor does it mean that every use will occur on every acre. Multiple use management includes management for traditional uses such as mining and livestock grazing, as well as management for wilderness, T&E species, and other resource values.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1969: A law enacted on January 1, 1970, that established a national policy to maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans. It established the Council on Environmental Quality for coordinating environmental matters at the federal level and to serve as advisor to the President on such matters. The law made all federal actions and proposals which could have significant impact on the environment subject to review by federal, state, and local environmental authorities.

NON-SPEED: In the context of an off-highway vehicle event, non-speed has been considered 25 miles per hour, or less, for management of most previous events through desert tortoise habitat. This would be the intended maximum speed for OHV events through ACECs.

NORTHEASTERN MOJAVE RECOVERY UNIT: This recovery unit is found primarily in Nevada, extending into California along the Ivanpah Valley and into extreme southwestern Utah and Northwestern Arizona.

OFF-HIGHWAY VEHICLES (OHV): Considered the same as *Off-road vehicle*, as defined in 43 CFR 8340.0-5. Generally, "any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain..." (5 exceptions listed in CFR).

OFF-HIGHWAY VEHICLE DESIGNATIONS: Defined at 43 CFR 8340.0-5 to include;

(f) *Open area* means an area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in subparts 8341 and 8342 of this title. within the following type of categories: Numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads and trails; use on designated roads and trails; and other restrictions.

(h) *Closed area* means an area where off-road vehicle use is prohibited. Use of off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

PERMITTED USE: The forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease and is expressed in AUMs.

PERMITTEE: A person or organization legally permitted to graze livestock on public lands.

PLAN OF OPERATION: The operation plan submitted for exploration and development for mineral or for approval when more than five acres a year will be disturbed or when the operator plans to work in an area of critical environmental concern, wild and scenic river, wilderness study area, or wilderness. A plan of operation must document, in detail, all actions the operator plans to take from exploration through reclamation and present all information needed for preparing a NEPA document.

PLANNING AREA: The area to which the amendment applies.

PLANNING ISSUE: (Bureau Manual 1616.1). Multiple use conflicts which usually are long-term and cannot be resolved by administrative action only. A planning issue must have two or more of the following characteristics: (1) concern expressed by public land users, State or local government, or another Federal agency; (2) existing or potential serious deterioration of public lands or resources; (3) possible significant impacts on and sometimes off public lands; (4) proposed uses which may not be in the best public interest or which may be in serious conflict with other uses. In addition, a planning issue must be mappable, decisions which could resolve it must be discretionary, it must not require resolution before planning is completed, and there must be alternative means of resolution. Resource management programs are not, by themselves, planning issues.

POTENTIAL NATURAL COMMUNITY (PNC): The biotic community that would become established if all successional sequences were completed without interference by human beings under the present environmental conditions. Natural disturbances are inherent in development. PNCs can include naturalized non-native species.

PRESCRIBED FIRE: Controlled application of fire to natural fuels under conditions of weather, fuel moisture, and soil moisture that will allow confinement of the fire to a predetermined area and, at the same time, will produce the intensity of heat and rate of spread required to accomplish certain planned benefits to one or more objectives to wildlife, livestock, and watershed values. The overall objectives are to employ fire scientifically to realize maximum net benefits at minimum environmental damage and acceptable cost.

PRESCRIPTION 1 GRAZING GUIDELINES: Livestock grazing may occur between June 15 and October 14 as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs and shrubs and from October 15 to February 28 as long as utilization does not exceed 50 percent on key perennial grasses, forbs, and shrubs forage species. Livestock use will not occur from March 1 to June 14.

PRESCRIPTION 2 GRAZING GUIDELINES: Livestock grazing may occur between February 15 and October 14, as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs, and shrubs. Between October 15 and February 14, forage utilization shall not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs.

PERMITTEE One who holds a permit to graze livestock on public land.

PREDATOR: An animal that preys on one or more other animals.

PUBLIC LANDS: Means any land and interest in land outside of Alaska owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands held for the benefit of Indians.

PUBLIC PARTICIPATION: The process of attaining citizen input into each stage of development of planning documents. It is required as a major input into the BLM's planning system.

RANGELAND: Land dominated by vegetation that is useful for grazing and browsing by animals. "Range" and "rangeland" are used interchangeably.

RECOVERY PLAN: A document prepared by the USFWS which outlines objectives for the conservation and survival of endangered and threatened species.

RECREATION AND PUBLIC PURPOSES ACT (R&PP): The Act of June, 1926, as amended (43 U.S.C. 869,869-4). Allows the disposal of public lands to any state, local, federal, or political instrumentality or nonprofit organization for any recreational or public purpose, at the discretion of the authorized officer.

RESOURCES: All of the products and physical values produced or contained within public lands. They include the values which are known as natural resources (i.e., timber, coal, oil, etc.).

RESOURCE AREA: A manageable geographic subdivision of a BLM District consisting of one or more planning areas.

RESOURCE ADVISOR: A resource specialist who provides guidance to fire overhead personnel in the development of fire suppression strategy and tactics to minimize the expected impacts of the fire and the fire suppression actions upon natural and human resources.

RIGHTS-OF-WAY: The legal right for use, occupancy, or access across land or water areas for a specified purpose or purposes. Also, the lands covered by such a right. A right-of-way is usually linear, but may include non-linear sites for communication facilities, etc.

RIPARIAN HABITAT: Riparian habitat is defined as an area of land directly influenced by permanent (surface of subsurface) water. They have visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and stream banks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil.

RIPARIAN VEGETATION: Plants adapted to moist growing conditions along streams, waterways, ponds, etc.

SALABLE MATERIALS: Minerals that may be sold under the Material Sale Act of 1947, as amended. Included are common varieties of sand, stone, gravel, and clay.

SERIAL COMMUNITY: One of a series of biotic communities that follow one another in time on any given area. Serial community is synonymous with successional community.

SERIAL STAGE: The developmental stages of an ecological succession; synonymous with successional stage.

SENSITIVE SPECIES: Species not yet officially listed but that are undergoing status review for listing on the Fish and Wildlife Service official threatened and endangered list; species whose populations are small and widely dispersed or restricted to a few localities; and species whose numbers are declining so rapidly that official listing may be necessary.

SHRUB: A plant that has persistent woody stems and a relatively low growth habit, and that generally produces several basal shoots instead of a single bole. It differs from a tree by its low stature, less than 5 meters (16 feet), and nonarborescent form.

SPECIAL STATUS SPECIES: Wildlife and plant species either federally listed or proposed for listing as endangered or threatened, state-listed or BLM determined priority species.

STIPULATION: A requirement, usually dealing with protection of the environment, that is made a part of a lease, grant, or other authorizing document. In the case of oil and gas leases, a provision that modifies standard lease rights and is attached to and made a part of the lease.

STOCKING RATE: The number of livestock animals permitted on an allotment, usually expressed in animal unit months or number of animals for a period of time.

THREATENED SPECIES: Any animal or plant species likely to become endangered within the foreseeable future throughout all of a significant portion of its range. These species are listed by the USFWS.

UTILIZATION: The percentage of forage that has been consumed by livestock, wild horses and burros, wildlife and insects during a specified period. The term is also used to refer to the pattern of such use.

VIBROSEIS: A seismic method in which a vibrator is used as an energy source. Vibrators or drop weight are mounted on trucks and are driven cross country to provide energy.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES: Management classes are determined on the basis of overall scenic quality, distance from travel routes, and sensitivity to change.

Class I: Provides primarily for natural ecological changes only. It is applied to wilderness areas, some natural areas, and similar situations where management activities are to be restricted.

Class II: Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character.

Class III: Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character.

Class IV: Changes may subordinate the original composition and character but must reflect what could be a natural occurrence within the characteristic landscape.

WILDCAT WELLS: Speculative exploration well drilled in an unproven oil and gas terrain.

WILDERNESS STUDY AREA (WSA): Areas under study for possible inclusion as a Wilderness Area in the National Wilderness Preservation System.

WILDFIRE: A free-burning fire requiring a suppression response.

WILD HORSE: All unbranded and unclaimed horses and their progeny that have used public lands on or after December 15, 1971, or that do use these lands as all or part of their habitat.

WITHDRAWAL: An action which restricts the use or disposal of public lands, segregating the land from the operation of some or all of the public land and/or mineral laws and holding it for a specific public purpose. Withdrawals may also be used to transfer jurisdiction of management to other federal agencies.

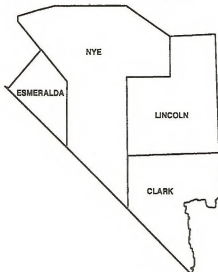
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APPENDIX A



MOJAVE-SOUTHERN GREAT BASIN AREA



PREAMBLE

The Standards and Guidelines for grazing administration on BLM lands in southern Nevada apply to livestock grazing. The Mojave-Southern Great Basin Resource Advisory Council (RAC) intends that the Standards and Guidelines will result in a balance of sustainable development and multiple use along with progress, over time, toward attaining desired rangeland conditions. Standards are expressions of physical and biological conditions required for sustaining rangelands for multiple uses. Guidelines point to management actions related to livestock grazing for achieving the Standards. Guidelines are options that move rangeland conditions toward the multiple use Standards. Guidelines are based on science, best rangeland management practices, and public input. Thus Guidelines indicate the types of grazing methods and practices for achieving the Standards for multiple use, are developed for functional watersheds and implemented at the allotment level.

The Mojave-Southern Great Basin Resource Advisory Council recognizes that it will sometimes be a long-term process to restore rangelands to proper functioning condition. In some areas, it may take many years to achieve healthy rangelands.

The Resource Advisory Council may be requested by any party to assist reaching agreement in resolving disputes.

STANDARDS AND GUIDELINES

STANDARD 1. SOILS:

Watershed soils and stream banks should have adequate stability to resist accelerated erosion, maintain soil productivity, and sustain the hydrologic cycle.

Soil indicators:

- Ground cover (vegetation, litter, rock, bare ground);

-
- Surfaces (e.g., biological crusts, pavement); and
 - Compaction/infiltration.

Riparian soil indicators:

- Stream bank stability.

All of the above indicators are appropriate to the potential of the ecological site.

GUIDELINES:

- 1.1 Upland management practices should maintain or promote adequate vegetative ground cover to achieve the standard.
- 1.2 Riparian-wetland management practices should maintain or promote sufficient residual vegetation to maintain, improve, or restore functions such as stream flow energy dissipation, sediment capture, groundwater recharge, and streambank stability.
- 1.3 When proper grazing practices alone are not likely to restore areas, land management practices may be designed and implemented where appropriate.
- 1.4 Rangeland management practices should address improvement beyond this standard, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

STANDARD 2. ECOSYSTEM COMPONENTS:

Watersheds should possess the necessary ecological components to achieve state water quality criteria, maintain ecological processes, and sustain appropriate uses.

Riparian and wetlands vegetation should have structural and species diversity characteristic of the stage of stream channel succession in order to provide forage and cover, capture sediment, and capture, retain, and safely release water (watershed function).

Upland indicators:

- Canopy and ground cover, including litter, live vegetation, biological crust, and rock appropriate to the potential of the ecological site.
- Ecological processes are adequate for the vegetative communities.

Riparian indicators:

- Stream side riparian areas are functioning properly when adequate vegetation, large woody debris, or rock is present to dissipate stream energy associated with high water flows.
- Elements indicating proper functioning condition such as avoiding accelerating erosion, capturing sediment, and providing for groundwater recharge and release are

determined by the following measurements as appropriate to the site characteristics:

Width/Depth ratio;

Channel roughness;

Sinuosity of stream channel;

Bank stability;

Vegetative cover (amount, spacing, life form); and

Other cover (large woody debris, rock).

- Natural springs, seeps, and marsh areas are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release as indicated by plant species and cover appropriate to the site characteristics.

Water quality indicators:

- Chemical, physical and biological constituents do not exceed the state water quality standards.

The above indicators shall be applied to the potential of the ecological site.

GUIDELINES:

- 2.1 Management practices should maintain or promote appropriate stream channel morphology and structure consistent with the watershed.
- 2.2 Watershed management practices should maintain, restore or enhance water quality and flow rate to support desired ecological conditions.
- 2.3 Management practices should maintain or promote the physical and biological conditions necessary for achieving surface characteristics and desired natural plant community.
- 2.4 Grazing management practices will consider both the economic and physical environment, and will address all multiple uses including, but not limited to, (i) recreation, (ii) minerals, (iii) cultural resources and values, and (iv) designated wilderness and wilderness study areas.
- 2.5 New livestock facilities will be located away from riparian and wetland areas if they conflict with achieving or maintaining riparian and wetland functions. Existing facilities will be used in a way that does not conflict with achieving or maintaining riparian and wetland functions, or they will be relocated or modified when necessary to mitigate adverse impacts on riparian and wetland functions. The location, relocation, design and use of livestock facilities will consider economic feasibility and benefits to be gained for management of lands outside the riparian area along with the effects on riparian functions.

-
- 2.6 Subject to all valid existing rights, the design of spring and seep developments shall include provisions to protect ecological functions and processes.
- 2.7 When proper grazing practices alone are not likely to restore areas of low infiltration or permeability, land management practices may be designed and implemented where appropriate. Grazing on designated ephemeral rangeland watersheds should be allowed only if (i) reliable estimates of production have been made, (ii) an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and (iii) adverse effects on perennial species and ecosystem processes are avoided.
- 2.8 Rangeland management practices should address improvement beyond these standards, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

STANDARD 3. HABITAT AND BIOTA:

Habitats and watersheds should sustain a level of biodiversity appropriate for the area and conducive to appropriate uses. Habitats of special status species should be able to sustain viable populations of those species.

Habitat indicators:

- Vegetation composition (relative abundance of species);
- Vegetation structure (life forms, cover, height, and age classes);
- Vegetation distribution (patchiness, corridors);
- Vegetation productivity; and
- Vegetation nutritional value.

Wildlife indicators:

- Escape terrain;
- Relative abundance;
- Composition;
- Distribution;
- Nutritional value; and
- Edge-patch snags.

The above indicators shall be applied to the potential of the ecological site.

GUIDELINES:

- 3.1 Mosaics of plant and animal communities that foster diverse and productive ecosystems should be maintained or achieved.
- 3.2 Management practices should emphasize native species except when others would serve better, for attaining desired communities.
- 3.3 Intensity, frequency, season of use and distribution of grazing use should provide for growth, reproduction, and, when environmental conditions permit, seedling establishment of those plant species needed to reach long-term land use plan objectives. Measurements of ecological condition, trend, and utilization will be in accordance with techniques identified in the Nevada Rangeland Handbook.
- 3.4 Grazing management practices should be planned and implemented to provide for integrated use by domestic livestock and wildlife, as well as wild horses and burros inside Herd Management Areas.
- 3.5 Management practices will promote the conservation, restoration and maintenance of habitat for special status species.
- 3.6 Livestock grazing practices will be designed to protect fragile ecosystems of limited distribution and size that support unique sensitive/endemic species or communities. Where these practices are not successful, grazing will be excluded from these areas.
- 3.7 Where grazing practices alone are not likely to achieve habitat objectives, land management practices may be designed and implemented as appropriate.
- 3.8 Vegetation manipulation treatments may be implemented to improve native plant communities, consistent with appropriate land use plans, in areas where identified Standards cannot be achieved through proper grazing management practices alone. Fire is the preferred vegetation manipulation practice on areas historically adapted to fire; treatment of native vegetation with herbicides or through mechanical means will be used only when other management techniques are not effective.
- 3.9 Rangeland management practices should address improvement beyond this standard, significant progress toward achieving standards, time necessary for recovery, and time necessary for predicting trends.

GLOSSARY

Definitions are taken from "A Glossary of Terms Used in Range Management" developed through the Society for Range Management or Bureau of Land Management Technical Reference or from the Dictionary of Ecology, Evolution and Systematics except where noted. Other definitions are from Grazing Administration Regulations Code of Federal Regulations, Chapter 43 Sec. 4100.0-5. Definitions also include meanings that were developed by the Mojave Southern Resource Advisory Council to understand their intent in the Standards and Guidelines.

A

Annual Growth. The amount of production of new above ground plant biomass for a given site during a given year.

B

Biodiversity. The diversity of organisms in a region; made up of species diversity in individual community-types and the turnover of species across different community-types.

Biological (Cryptogamic) Crust. Community of non-vascular primary producers that occur as a "crust" on the surface of soils; made up of a mixture of algae, lichens, mosses, and cyanobacteria (bluegreen algae).

Biotic. Refers to living components of an ecosystem, e.g., plants and animals and microorganisms.

C

Canopy. (1) The vertical projection downward of the aerial portion of vegetation, usually expressed as a percent of the ground so occupied. (2) The aerial portion of the overstory vegetation.

Canopy Cover. The percentage of ground covered by a vertical projection of the outermost perimeter of the natural spread of foliage of plants. Small openings within the canopy are included. (BLM Technical Reference 4400-7)

Climate. The average or prevailing weather conditions of a place over a period of years. (BLM Technical Reference 4400-7)

Conservation. The planned management of natural resources; the retention of natural balance, diversity and evolutionary change in the environment.

The use and management of natural resources according to principles that assure their sustained economic and/or social benefits without impairment of environmental quality.

Cover. a. (1) The plants or plant parts, living or dead, on the surface of the ground. Vegetative cover or herbage cover is composed of living plants and litter cover of dead parts of plants. (2) The area of ground cover by plants or one or more species.

b. (1) the combined aerial parts of plants and mulch, and (2) shelter and protection for animals and birds. (BLM Manual 4400)

c. (1) plant material, living (vegetative Cover) and dead (litter cover) on the soil surface; (2) the area of ground covered by the canopy projections of a particular plant species, expressed as a scale or as a percentage of total ground surface area.

Cultural Resources. A broad, general term meaning any cultural property and any traditional lifeway value. (BLM Manual 8100)

Cultural Property. A definite location of past human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. (Manual 8100)

D

Desert Pavement. A cemented, hydrophobic layer of rocks or small pebbles that occurs over time on desert soil surfaces; prevents water infiltration into soils and wind/water erosion of the soil; often covered with a chemical varnish layer.

Desired Natural Plant Community. The type of plant community which is desired for a particular ecological site. This could include native and non-native species depending on the desired land use, but as a natural plant community it must have native species adapted to the climate and soil type as dominants or co-dominants in the community.

Desired Plant Community. Of the several plant communities that may occupy a site, the one that has been identified through a management plan to best meet the plan's objectives for the site. It must protect the site as a minimum.

Diversity. (1) the absolute number of species in a community; species richness; (2) A measure of the number of species and their relative abundance in a community; low diversity refers to few species or unequal abundances, high diversity to many species or equal abundances.

E

Ecological Processes. Natural functions including the hydrologic cycle, the nutrient cycle, and energy flow. (see also 43 CFR 4180.1(b))

Ecological Site. The kind of land with a specific potential natural community and specific physical site characteristics, differing from other kinds of land in its ability to produce vegetation and to respond to management. (BLM Manual 4400)

Edaphic. Refers to the soil.

Endemic Species. Native to, and restricted to, a particular geographical region, community type, or specific habitat.

Ephemeral Rangelands. Rangelands characterized by low, highly seasonal and often episodic rainfall, resulting in annual plants comprising a significant proportion of annual primary production.

Erosion. (v.) Detachment and movement of soil or rock fragments by the action of water, wind, ice or gravity. (n.) The land surface worn away by running water, wind, ice, or other geologic agents, including such processes as gravitational creep.

Exotic. An organism or species which is not native to the region in which it is found. Synonym *non-native*: Not native; alien; a species that has been introduced into an area.

F

Forage. The plant material actually consumed by (or available to) grazing animals.

Fragile Ecosystems. Uncommon ecosystems of limited distribution and size that support unique sensitive/endemic species or communities; ecosystems that have low resilience to environmental stress or to disturbance.

Frequency. The ratio between the number of sample units that contain a species and the total number of sample units.

A quantitative expression of the presence of absence of individuals of a species in a population. It is defined as the percentage of occurrence of a species in a series of samples of uniform size. (BLM Technical Reference 4400-4)

G

Grazing Distribution. Dispersion of livestock grazing within a management unit or area.

Ground Cover. The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, litter, cobble, gravel, stones and bedrock. Ground cover plus bare ground would total 100 percent. (BLM Technical Reference 4400-4)

Ground Water. Subsurface water that is in the zone of saturation. The top surface of the ground water is the "water table." Source of water for wells, seepage, springs.

H

Habitat. The natural abode of a plant or animal, including all biotic, climatic, and edaphic factors affecting life.

Hydrologic Balance. The balance between hydrological inputs (infiltration of incident precipitation, run-on) and hydrological outputs (run-off, deep drainage) for an ecological site.

I

Infiltration. The flow of a fluid into a substance through pores or small openings. It connotes flow into a substance in contradistinction to the word *percolation*.

The process by which water seeps into a soil, as influenced by soil texture, aspect and vegetation cover.

Infiltration Rate. Maximum rate at which soil under specified conditions can absorb rain or shallow impounded water, expressed in quantity of water absorbed by the soil per unit of time, e.g., inches/hour.

Integrated Use. To merge the use of each type of public land use through a series of land management practices.

L

Land Use Plan. Land use plan means a resource management plan, developed under the provisions of 43 CFR part 1600, or management framework plan. These plans are developed through public participation in accordance with the provisions of the Federal Land Policy and Management Act of 1976 and establish management direction for resource uses of public lands. (43 CFR 4100)

Litter. The uppermost layer of organic debris on the soil surface; essentially the freshly fallen or slightly decomposed vegetal material. (BLM Technical Reference 4400-4)

M

Management Objective. The objectives for which rangeland and rangeland resources are managed which includes specified users accompanied by a description of the desired vegetation and the expected products and/or values.

Management Plan. A program of action designed to reach a given set of objectives.

Marsh. Flat, wet, treeless areas usually covered by standing water and supporting a native growth of grasses and grasslike plants.

Monitoring. The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives. (BLM Technical Reference 4400-7)

Monitoring. Monitoring means the periodic observation and orderly collection of data to evaluate: (1) Effects of management actions; and (2) Effectiveness of actions in meeting management objectives. (43 CFR 4100.0.5)

Morphology. The form and structure of an organism, with special emphasis on external features.

Multiple Use. The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return of the greatest unit output. (Federal Land Policy and Management Act)

N

Native Species. A species which is a part of the original fauna or flora of the area in question. Indigenous; living naturally within a given area and was part of the areas flora or fauna prior to human settlement of the region.

Naturalized Species. An exotic or introduced species that has become established and exhibits successful reproduction in an ecosystem.

P

Percolation. The flow of a liquid through a porous substance.

Productivity. The potential rate of incorporation or generation of energy or organic matter (biomass) by an organism, population or trophic unit per unit time per unit area; plant productivity is termed primary production, and animal productivity is termed secondary production.

Proper Functioning Condition. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve flood-water retention and ground-water recharge; develop root masses that stabilized streambank against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. (BLM Technical Reference 1737-9)

R

Range Improvement. Range improvement means an authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes but is not limited to, structures, treatment projects, and use of mechanical devices or modifications achieved through mechanical means.

Residual Vegetation. Amount, cover, and species composi-

tion of the vegetation on a site after it has been grazed for a period of time.

Resource. Any component of the environment that can be utilized by an organism.

Riparian. Pertaining to, living or situated on, the banks of rivers and streams. 'Xeroriparian' refers to being situated on dry washes (ephemeral streams).

S

Seep. Wet areas, normally not flowing, arising from an underground water source.

Soil. (1) The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants. (2) The unconsolidated mineral matter on the surface of the earth that has been subjected to and influenced by genetic and environmental factors of parent material, climate (including moisture and temperature effects), macro- and micro-organisms, and topography, all acting over a period of time and producing a product -soil- that differs from the material it was derived in many physical, chemical, biological, and morphological properties and characteristics.

Soil Productivity. The organic fertility or capacity of a given area or habitat.

Species. A taxon of the rank species; which is the basic unit, and lowest principal category, of biological classification; in the hierarchy of biological classification, the category below genus; a group of organisms formally recognized as distinct from other groups.

Species Composition. The proportions of various plant species in relation to the total on a given area. It may be expressed in terms of cover, density, weight, etc. Synonym *Vegetative composition*.

Surface Characteristics. The amount of bare ground, litter, rock and basal cover of live vegetation, which may include cryptogams. (Nevada Rangeland Monitoring Handbook)

Sustained Yield. The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. (FLPMA)

T

Traditional Lifeway Values. The quality of being useful in or important to the maintenance of a specified social and/or cultural group's traditional systems of (a) religious belief, (b) cultural practice or (c) social interaction, not closely identified with definite locations. Another group's shared values are abstract, nonmaterial, ascribed ideas that one cannot know about without being told. (BLM Manual 8100)

Trend. The direction of change in ecological status or resource value rating observed over time. Trend in ecological status should be described as *toward*, or *away from* the potential natural community, or as *not apparent*. (BLM Technical Reference 4400-4)

U

Upland. Terrestrial ecosystems located away from riparian zones, wetlands, springs, seeps and dry washes; ecosystems made up of vegetation not in contact with groundwater or other permanent water sources.

V

Vegetative Life Form. The characteristic structural features and method of perennation of a plant species, e.g., annuals, perennial forbs, shrubs, trees and succulents.

W

Watershed. (1) A total area of land above a given point on a waterway that contributes runoff water to the flow at that point. (2) A major subdivision of a drainage basin.

Wetlands. Areas characterized by soils that are usually saturated or ponded, i.e., hydric soils, that support mostly water-loving plants (hydrophytic plants).

In areas of arid low lying land that is submerged or inundated periodically by water, and is characterized by hydric soils that support mostly water-loving (hydrophytic) plants.

STANDARD AND GUIDELINES IMPLEMENTATION PROCESS

It is a requirement that grazing permits and leases shall contain terms and conditions that ensure conformance with the approved Standards and Guidelines.

The implementation process for Standards and Guidelines will occur under two separate processes as described below:

1. During the supervision and/or monitoring of an allotment, if it is determined that the existing terms and conditions of a grazing permit are not in conformance with the approved Standards and Guidelines and that livestock grazing was determined to be a significant factor in the non-attainment of a standard, then as soon as possible, or no later than the start of the next grazing year, the terms and conditions of the permit/lease will be modified to ensure that the grazing management practices or the levels of the grazing use will be in conformance with the Standards and/or Guidelines.

The modification of the terms and conditions of the permit/lease will be implemented by agreement and/or by decision.

2. The allotment evaluation process will continue to be the process used to determine if existing multiple uses for allotments are meeting or making progress towards meeting land use plan objectives, allotment specific objectives, Rangeland Program Summary objectives and land use plan decisions, in addition to the Standards and Guidelines for grazing administration.

Additionally, allotment specific objectives may have to be developed or amended, objectives in

the land use plans further quantified at the allotment specific level, and terms and conditions of permits changed or revised to reflect the Standards and Guidelines. Allotment evaluations will continue to be completed based on district priorities.

a. The allotment evaluation consists of or involves:

- 1) The evaluation of current grazing use by all users (livestock, wild horses, wildlife) based on monitoring data analysis and interpretation;
- 2) Recommendations to change or adjust grazing systems;
- 3) Recommendations to change or adjust stocking levels; and
- 4) Establishment of stocking levels for wild horses.

b. The allotment evaluation also serves as the basis for either issuing multiple use decisions, agreements, or a no change determination. Multiple use decisions are prepared subsequent to completion of land use plans and are based on the attainment or non-attainment of objectives established in the land use plans and allotment evaluations.

During the evaluation process, the existing terms and conditions of a permit will be evaluated to determine if they are in conformance with the approved Standards and Guidelines. If it is determined that the existing terms and conditions are not in conformance and that livestock grazing was a significant factor in the non-attainment,

then as soon as possible or no later than the start of the next grazing year, the terms and conditions of the permit/lease will be modified to ensure that the grazing management practices or the levels of grazing use will be in conformance.

At the conclusion of the evaluation process, the multiple use decision process will continue to be used to establish:

- 1) The terms and conditions of the grazing permits;
- 2) The appropriate management level for wild horses and burros that occur within the allotment; and
- 3) Any recommendations for wildlife populations or habitat management actions required if it is determined that these actions are necessary.

The preamble to the final regulations contains additional information regarding implementation. The following preamble language is found on page 9956 of the Federal Register notice:

"... The Department intends that failing to comply with a standard in an isolated area would not necessarily result in corrective action.

"The Department recognizes that it will sometimes be a long-term process to restore rangelands to proper functioning condition. The Department intends that Standards and Guidelines will result in a balance of sustainable development and multiple use along with progress towards attaining healthy, properly functioning rangelands. For that reason, wording has been adopted in the final rule that will require the authorized officer to take appropriate action upon determining that existing grazing management practices are failing to ensure appropriate progress toward the fulfillment of standards..."

"In some areas, it may take many years to achieve healthy rangelands, as evidenced by the fundamentals, established standards, and guidelines. The Department recognizes, that in some cases, trends may be hard to even document in the first year. The Department will use a variety of data, including monitoring records, assessments, and knowledge of the locale to assist in making the "significant progress" determination."

The acceptance of progress toward reaching the desired end state is also addressed in the regulatory text in 43 CFR 4180.1 Fundamentals of Rangeland Health which includes the "making significant progress toward" language in each of the four fundamentals.

The concept of "making progress toward" is a specific consideration when determining a course of action during implementation. Determining whether a standard is being met is a distinctly different concept from determining whether progress is being made toward or away from the standard. Determining a course of action is then dependent on a variety of factors, one of which is whether progress is being made toward the standard.

With regard to actions, it is the BLM's policy and intent to work in a collaborative manner to achieve or maintain the Standards necessary for healthy, productive rangelands. It is not the policy or intent of the BLM to arbitrarily and immediately remove all livestock from an entire allotment based solely on finding a range site that is not meeting a standard. As a practical matter the BLM has neither policy, intent, desire nor capability to arbitrarily remove all livestock where acceptable progress is being made toward meeting the Standards.

NEVADA STATE OFFICE

State Director: Ann Morgan
Associate State Director:
Jean Rivers-Council
850 Harvard Way (89502-2055)
PO Box 12000
Reno, Nevada 89520-0006
7:30 am to 4:15 pm weekdays
702-785-6400 • FAX (702) 785-6411

National Wild Horse & Burro Center at

Palomino Valley
P.O. Box 3270
Sparks, Nevada 89432-3272
702-475-2222 • FAX (702) 475-2053

BATTLE MOUNTAIN FIELD OFFICE

District Manager: Jerry Smith
50 Bastian Rd.
PO Box 1420
Battle Mountain, Nevada 89820-1420
7:30 am to 4:30 pm weekdays
702-635-4000 • FAX (702) 635-4034

Tonopah Field Station

Manager: Ron Huntsinger
Bldg. 102, Military Circle
PO Box 911
Tonopah, Nevada 89049-0911
7:30 am to 4:30 pm weekdays
702-482-7800 • FAX (702) 482-7810

CARSON CITY FIELD OFFICE

District Manager: John Singlaub
1535 Hot Springs Road
Carson City, Nevada 89706-0638
7:30 am to 5:00 pm weekdays
702-885-6000 • FAX (702) 885-6147

ELKO FIELD OFFICE

District Manager: Helen Hankins
3900 E. Idaho St.
Elko, Nevada 89801
7:30 am to 4:30 pm weekdays
702-753-0200 • FAX (702) 753-0255

ELY FIELD OFFICE

District Manager: Gene Kolkman
702 North Industrial Way
HC33 Box 33500
Ely, Nevada 89301-9402
7:30 am to 4:30 pm weekdays
702-289-1800 • FAX (702) 289-1910

Caliente Field Station

PO Box 237
U.S. Highway 93
Caliente, Nevada 89008-0237
7:30 am to 4:15 pm weekdays
702-726-8100 • FAX (702) 726-8111

LAS VEGAS FIELD OFFICE

District Manager: Mike Dwyer
4765 W. Vegas Drive
Las Vegas, Nevada 89108-2135
7:30 am to 4:15 pm weekdays
702-647-5000 • FAX (702) 647-5023

Red Rock Canyon

National Conservation Area
702-363-1921 • FAX (702) 363-6779

WINNEMUCCA FIELD OFFICE

District Manager: Ron Wenker
5100 E. Winnemucca Blvd.
Winnemucca, Nevada 89445
7:30 am to 4:30 pm weekdays
702-623-1500 • FAX (702) 623-1503

APPENDIX B

ACEC NOMINATION EVALUATION

NAME: North Mormon Mesa ACEC LOCATION: Southeast Lincoln County,
North of I-15

SIZE: 256,175 acres

NOMINATED BY: The Wilderness Society, Defenders of Wildlife, Natural Resource Defense Council

RATIONALE: Habitat for a federally listed, threatened species.

RELEVANCE (MUST CONTAIN ONE OR MORE OF THE FOLLOWING):

1. Significant historic, cultural, or scenic value? **Agave roasting pits, rock shelters, rock art in Mormon Mountains**
2. Fish and wildlife resource? **Desert tortoise habitat**
3. Natural process or system? **None unique to the area**
4. Natural hazard? **None known**

IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource? **Habitat for a federally listed, threatened species. This area is part of the Mormon Mesa-Beaver Dam Slope genetic subunit of the desert tortoise *Gopherus (Xerobates) agassizii*.**
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change? **Habitat for a federally listed, threatened species; some evidence of Upper Respiratory Tract Disease Syndrome in the tortoise population. Following sensitive plants, classified as threatened, may occur in this area:**
 - A. *Phlox gladiiformis* - Musky phlox
 - B. *Agave utahensis* - Utah agave
 - C. *Ferocactus acanthodes* var. *lecontii* - Miners compass
3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA? **Yes, under Section 102(a)(8) of FLPMA and the Endangered Species Act of 1973, as amended.**
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare? **None known.**
5. Poses a significant threat to human life and safety or to property? **Not known.**

RECOMMENDATION

The area meets the relevance and importance criteria, and although the Endangered Species Act provides an adequate level of protection for the biological values of the area, special management attention is needed to ensure the "recovery" of the desert tortoise.

ACEC NOMINATION EVALUATION

NAME: Sand Hollow ACEC LOCATION: Southeast Lincoln County
North of I-15

SIZE: Approx. 122,000 acres

NOMINATED BY: The Wilderness Society, Defenders of Wildlife, Natural Resource Defense Council

RATIONALE: Habitat for a federally listed, threatened species.

RELEVANCE (MUST CONTAIN ONE OR MORE OF THE FOLLOWING):

1. Significant historic, cultural, or scenic value? **None known**
2. Fish and wildlife resource? **Desert tortoise habitat**
3. Natural process or system? **None unique to the area**
4. Natural hazard? **None known**

IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource? **Habitat for a federally listed, threatened species. This area is part of the Mormon Mesa-Beaver Dam Slope genetic subunit of the desert tortoise *Gopherus agassizii*.**
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change? **Habitat for a federally listed, threatened species; some evidence of Upper Respiratory Tract Disease Syndrome in the tortoise population.**
3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA? **Yes, under Section 102(a)(8) of FLPMA and the Endangered Species Act of 1973, as amended.**
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare? **None known.**
5. Poses a significant threat to human life and safety or to property? **Not known.**

RECOMMENDATION

The area meets the relevance and importance criteria, and although the Endangered Species Act provides an adequate level of protection for the biological values of the area, special management attention is needed to assist the recovery of the desert tortoise.

ACEC NOMINATION EVALUATION

NAME: Coyote Springs Valley ACEC LOCATION: Southeast Lincoln County

SIZE: Approx 191,000 acres

NOMINATED BY: The Wilderness Society, Defenders of Wildlife, Natural Resource Defense Council

RATIONALE: Habitat for a federally listed, threatened species.

RELEVANCE (MUST CONTAIN ONE OR MORE OF THE FOLLOWING):

1. Significant historic, cultural, or scenic value? **None known**
2. Fish and wildlife resource? **Desert tortoise habitat**
3. Natural process or system? **None unique to the area**
4. Natural hazard? **None known**

IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource? **Habitat for a federally listed threatened species. This area Category 1 habitat for a portion of the Mormon Mesa-Beaver Dam Slope genetic subunit of the desert tortoise *Gopherus agassizii*.**
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change? **Habitat for a federally listed, threatened species; some evidence of Upper Respiratory Disease Syndrome in the tortoise population. Four sensitive plant species may occur within this area:**

Endangered:

Astragalus nyensis - Nye milk-vetch

Threatened:

A. *Agave utahensis* - Utah agave

B. *Coryphantha vivipara* - Cloky pincushion cactus

C. *Gilia ripleyi* - Ripley gilia

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA? **Yes, under Section 102(a)(8) of FLPMA and the Endangered Species Act of 1973, as amended.**
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare? **None known.**
5. Poses a significant threat to human life and safety or to property? **Not known.**

RECOMMENDATION

The area meets the relevance and importance criteria, and although the Endangered Species Act provides an adequate level of protection for the biological values of the area, special management attention is needed to ensure the "recovery" of the desert tortoise.

APPENDIX C

LAND TENURE ADJUSTMENTS

Introduction:

Possible land tenure adjustments by acquisition or disposal will be evaluated on a case-by-case basis. Acquisition of lands by the BLM will occur via exchanges, gifts, donations, or purchase using Land and Water Conservation funds. Disposal of federal lands may be accomplished by exchange, FLPMA Sec. 203 sales, R&PP patent, or Airport Patent. Disposal through any of the aforementioned means will be in accordance with the appropriate *Code of Federal Regulations*.

Review Process:

No landownership adjustments will be implemented without a feasibility study, site-specific environmental analysis, and determination that the transfer is in the public interest.

LAND DISPOSAL CRITERIA

Lands To Be Retained:

The following lands will be retained in federal ownership:

- lands withdrawn from the public land laws;
- lands within Wilderness Study Areas;
- lands contained in designated ACECs/DWMAs;
- lands with mining claims of record, under section 314 of FLPMA.

Other Factors Considered:

The following conditions will be evaluated during the review process for proposed land transfers. The degree to which any of these conditions apply to a proposed land tenure adjustments may or may not make the lands suitable for disposal or acquisition:

- mineral values;
- location of the lands in relation to ACECs/DWMAs, WSAs or other areas of special management designations;
- importance of the lands for wildlife resources, such as habitat for federally listed threatened, endangered, or special status species;
- location of cultural resource sites included or eligible for inclusion to the National Register of Historic Places;
- all other elements identified as Critical Elements of the Human Environment in BLM NEPA Handbook H-1790-1, Appendix 5.

LANDS SUITABLE FOR DISPOSAL

Sales, Exchanges, and R&PP Patents

The lands identified in Table C-1 may be suitable for disposal under section 203 of FLPMA, exchange, or patent under the R&PP Act. These lands potentially meet criteria identified at 43 CFR 2710.0-3 because they are isolated and uneconomical to manage or because they have the potential to meet important public objectives. These lands are close enough to population centers to potentially receive interest from a qualified applicant for conveyance through the R&PP Act.

Lands identified within desert tortoise habitat, but outside of designated ACECs/DWMAs, may be conveyed for community expansion and public projects. Examples may include but are not limited to, residential, commercial, and industrial expansion, municipal, county or State governmental infrastructure needs, and non-profit community service providers. Lands may be conveyed prior to having a USFWS-approved Habitat Conservation Plan (HCP) in place. It is always the responsibility of the patent holder to secure necessary permits and approvals and to comply with all applicable laws prior to any development of the land. The method of disposal or the conveyance document are not to be construed as relieving the patent holder of these responsibilities.

Unsurveyed lands must be surveyed prior to any disposal action; these lands will be noted as protracted descriptions.

All disposal actions will be made subject to valid existing rights.

Desert Land Act; Carey Act; Indian Allotment Act:

The Desert Land, Carey, and Indian Allotment Acts are nineteenth century legislation that authorizes the conversion of arid public lands to agricultural production. Agricultural development, as envisioned by that legislation, is inconsistent with the goals and objectives of this amendment to recover and delist the Mojave desert tortoise. Applications submitted under the Authority of these three Acts, within desert tortoise habitat will be considered as not being in conformance with the Land Use Plan and will not be accepted. Applications received will be returned to the applicant.

Exchange, Public Law 100-275 (formerly Aerojet) Leased Land:

The Nevada-Florida Land Exchange Authorization Act of 1988, PL 100-275, authorized the conveyance and lease of certain lands within Lincoln County to the Aerojet Corporation. The lands involved in that legislation, have the highest desert tortoise population density in Lincoln County. The patent holders have expressed their intention to develop a residential retirement community on the patented lands. Development of these lands could lead to fragmentation of desert tortoise habitat. The configuration of the leased to patented aerojet land as it exists promotes fragmentation of habitat and poorly designed reserve areas. Adjustments in the landownership pattern will improve the design of the Kane Springs ACEC and diminish habitat fragmentation. The Bureau recognizes an opportunity to accomplish this through land exchange. Accordingly, the legislatively leased lands described in PL 100-275 will be available for disposal through exchange for other lands legislatively patented in the same Act when it can be shown that the exchange will enhance ACEC reserve design as well as improve critical desert tortoise habitat. These lands identified in Table C-3 are suitable for disposal under the BLM exchange authorities, they are not suitable for disposal under the sale authorities.

Airport Patents:

Requests for Airport Patents, pursuant to the Airport and Airway Improvement Act, on existing airports within desert tortoise habitat, will be evaluated. Lands in the vicinity of the City of Mesquite, where that municipality

has identified the need for an airport, will also be evaluated for an Airport Patent or for ELPMA sale. The following must be met for any lands to be considered:

The lands are located outside of designated ACECs/DWMAs or critical habitat for desert tortoise.

The lands identified in Table C-2 may be suitable for disposal under the Airport and Airway Improvement Act. Requests for Airport Patents, that are not existing airports, adjacent to existing airports, or located in the vicinity of the City of Mesquite (and identified by that municipality), will be considered as inconsistent with this plan amendment. The Authorized Officer shall upon receipt of a letter requesting such patent, notify in writing the Secretary of Transportation that such request would be contrary to the public interest and inconsistent with the purposes for which these lands are being managed.

POSSIBLE FUTURE ACQUISITIONS

Land acquisitions opportunities are dependent upon a landowner being willing to sell or exchange lands based on appraised land value. In the spirit of collaborative decision-making, BLM will seek local government participation and, whenever possible, concurrence in any acquisitions. Land acquisitions actions will be pursued in priority order; any acquisitions that benefit listed species or other at risk resources will generally be a high priority. Because they are dependent upon a private sector willingness, land acquisition opportunities cannot be identified or processed on a specific time schedule. The following are land acquisitions that the BLM-Ely Field Office will pursue, should the opportunity arise.

Private lands within the proposed Kane Springs, Mormon Mesa, and Beaver Dam Slope ACECs may be acquired from willing sellers for the enhancement of desert tortoise habitat management. Lands may be acquired through exchange authorities, gifts, donations or purchase with Land and Water Conservation funds, as available or appropriate.

Acquire legislatively transferred private holdings of Harrich Investments, LLC, (formerly Aerojet Corporation lands) through the appropriate authority. These lands would be included in the Kane Springs ACEC, should they become available.

Acquire from the City of Mesquite, in an exchange, approximately 35 acres, located within T. 12 S., R. 71 E., Sec. 16, SW $\frac{1}{4}$ NW $\frac{1}{4}$ (within), in support of an exchange to facilitate future expansion of the existing regional landfill.

TABLE C-1: Possible Sales; Exchanges; R&PP Patents.

Twp.	Range	Mer.	Section	Subdivision	Acres
6 S.	61 E.	MDM	6	Lots 5, 6 and 7, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$.	391.32
			7	N $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$.	120.00
			31	S $\frac{1}{2}$ SE $\frac{1}{4}$.	80.00
7 S.	60 E.	MDM	1	E $\frac{1}{2}$. (protracted)	320.00
			12	NE $\frac{1}{4}$. (protracted)	160.00
7 S.	61 E.	MDM	5	NE $\frac{1}{4}$ SE $\frac{1}{4}$.	40.00
			6	Lots 6 and 7, E $\frac{1}{2}$ SW $\frac{1}{4}$, N $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$.	276.20
			7	Lots 1 and 2, E $\frac{1}{2}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ NE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$.	396.43
			8	S $\frac{1}{2}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$.	180.00
			9	W $\frac{1}{2}$, NE $\frac{1}{4}$.	480.00
			18	NE $\frac{1}{4}$ NE $\frac{1}{4}$.	40.00
			17	NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$.	200.00
9 S.	67 E.	MDM	10	E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$.	40.00
			11	NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$.	10.00
			15	E $\frac{1}{2}$ E $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$.	60.00
12 S.	70 E.	MDM	13	All. (protracted)	640.00
			24	All. (protracted)	640.00
			25	E $\frac{1}{2}$. (protracted)	320.00
			26	N $\frac{1}{2}$. (protracted)	320.00
			27	All. (protracted)	640.00
			36	NE $\frac{1}{4}$, S $\frac{1}{2}$. (protracted)	480.00
12 S.	71 E.	MDM	15	All. (protracted)	196.00
			16	All. excluding Parcel B, (protracted)	599.00
			17	All. excluding Parcel A, (protracted)	601.00
			18	All. (protracted)	640.00
			19	All. (protracted)	640.00
			20	All. (protracted)	640.00
			21	All. (protracted)	640.00
			22	All. (protracted)	195.00
			27	All. (protracted)	195.00

TABLE C-1: Possible Sales; Exchanges; R&PP Patents.

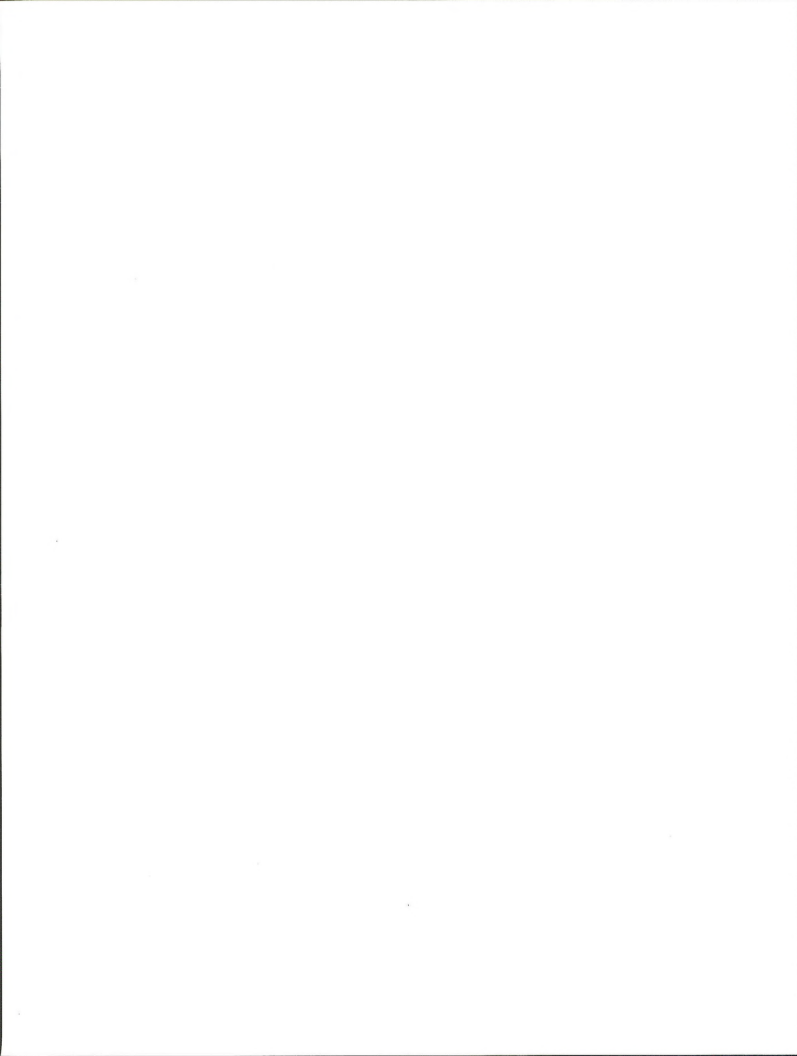
Twp.	Range	Mer.	Section	Subdivision	Acres
			28	All. (protracted)	640.00
			29	All. (protracted)	640.00
			30	All. (protracted)	640.00
			31	All. (protracted)	640.00
			32	All. (protracted)	640.00
			33	All. (protracted)	640.00
			34	All. (protracted)	194.00
				TOTAL	14,213.95

TABLE C-2: Potential Airport Patent Locations

Twp.	Range	Mer.	Section	Subdivision	Acres
7 S.	60 E.	MDM	1	SE¼.	160.00
			12	NE¼.	160.00
7 S.	61 E.	MDM	6	Lots 6 and 7, E½SW¼.	156.20
			7	Lots 1 and 2, E½NW¼.	156.93
12 S.	70 E.	MDM	25	W¼. (protracted).	320.00
			26	S¼. (protracted).	320.00
			34	All. (protracted).	640.00
			35	All. (protracted).	640.00
			36	NW¼. (protracted).	160.00
				TOTAL	2713.13

Table C-3. Legislatively Leased Lands Suitable For Exchange

Twp.	Range	Mer.	Section	Subdivision	Acres
11 S.	63 E.	MDM	19	that portion lying easterly of the centerline of U.S. Hwy 93 and the western boundary of the transmission corridor, that boundary being ½ mile easterly from the centerline of U.S. Hwy 93.	1,075.00
			30		
			31		
12 S.	63 E.	MDM	4	All.	640.00
			5	that portion lying easterly of the eastern boundary of the transmission corridor, that boundary being 1½ miles from the centerline of U.S. Hwy 93.	1,975.00
			9		
			16		
			21		
			28		
			33		
			6	that portion of the N½N½ lying between the centerline of U.S. Hwy 93 and the western boundary of the transmission corridor, that boundary being ½ mile easterly of the centerline of U.S. Hwy 93	
			15		
			22		
			23		
			26	W½.	320.00
			27	All.	640.00
			34	All.	640.00
			35	All.	640.00
TOTAL					7,370.00



APPENDIX D

OHV Stipulations for Special Recreation Permits

1. Entrants, pit crew members, crowd control officials, race monitors, checkpoint personnel, and clean-up crews shall be informed, either through a presentation or a pamphlet, of the occurrence of desert tortoises in the race area, and the threatened status of the species. All such personnel shall be advised of the definition of "take," the potential for impacts to the desert tortoise, and the potential penalties (up to \$25,000 in fines and 6 months in prison) for taking a threatened species in a manner not permitted in the incidental take statement. The permit holder shall provide a written statement for signature acknowledging receipt of information regarding the desert tortoise and any special stipulations in place for tortoise protection from all entrants. All race monitors and check-point personnel shall be provided the race stipulations and the procedures for reporting permit violations.

Minors and responsible adults participating in mini-events shall be informed that they shall not ride their ATV's or motorcycles in the desert after they finish a mini-event. This includes the open desert as well as roads and trails. Failure to comply with this condition by any child associated with a particular rider shall result in the disqualification of that rider.

2. If a vehicle breaks down, it will be moved to the side of the race course, avoiding damage to vegetation to the extent possible. Participants who stop to rest will pull over onto side roads or areas devoid of perennial vegetation. Riders who retire from the race will either wait along the course for their crew to pick them up, or travel along the course to a pit area. Chase crews will be limited to retrieving vehicles that are broken down along the course. All chase vehicles must have a pit pass.
3. Spectator areas for viewing and vehicles will be allowed in designated spectator areas only. Within ACECs, spectator areas will not be allowed. Within desert tortoise habitat outside of ACECs, spectator areas will be confined to existing disturbance areas. If disturbed areas are not available, new areas will be placed in areas with the least impact to tortoise and their habitat.

Within critical habitat, temporary or permanent fences/boundary markers shall be installed around spectator areas to clearly delineate the boundaries of these areas from adjacent desert habitat. The promoter will be required to mark the boundaries of the spectator area so that spectators can readily tell where the boundary is located. Rope or wire with warning triangles or other similar sturdy materials shall be used. A monitor will be placed at each spectator area, to ensure spectators remain within the designated boundary. Anyone found outside of the designated area will be subject to citation by a Bureau law enforcement officer.

4. Pit crews will use only authorized pit areas. No pit areas will be allowed within ACECs. Whenever possible, pits shall be confined to existing disturbed areas. The pit area boundaries will be clearly marked to delineate the pit from the surrounding desert. This barrier will be made from rope or wire with warning triangles, temporary fencing, or other similar sturdy materials. On buggy races with pits, pit areas will be marked with a sign stating that a pit pass is required. A maximum of 10 pit pass will be issued to each entrant. Pit passes will have the name and date of the event and will be affixed to the windshield of the vehicle. If not removed, vehicles without pit passes will be towed at the owners' expense.
5. All event-related vehicular activities will be confined to authorized vehicle routes and the course itself, and will not stray into vegetated areas. All major access routes leading into restricted areas will be monitored, or marked closed and bannered off. Road markers, vehicle barricades, or signs will be installed either the day of the race or the day before the race. Personnel shall be stationed at these areas, as appropriate, to enforce access restrictions. Directional signs to spectator and pit areas will be posted at all main access points. Race-in-progress signs will be posted at each location where the race crosses another road. Other disqualification or hazard zones will be monitored periodically during the event.

6. Bureau staff will be present during daylight hours of the event to check for compliance with stipulations of the race permit. The importance of staying on the race course will be stressed to all participants by the Bureau and promoter.
7. A sufficient number of monitors and crowd control officials, as determined by Bureau staff at the event (number 6 above), will be present to enforce compliance with stipulations of the race permit. During the race, a monitor shall be stationed at all disqualification or hazard areas to record any violations.
8. Permittees shall be responsible for trash and litter clean-up along the course and in spectator and pit areas. Stakes, flagging materials, temporary facilities, litter, and all other event-related materials shall be removed from the course and pit, parking, and spectator areas. The race courses and parking areas shall be restored, at a minimum, to pre-race conditions within 15 days after the event. Garbage and food will be removed from the site of the event and will be disposed of in authorized sanitary landfills.
9. To reduce casual use of the race course, the race area will be legally closed to casual use on the day of the race. The promoter will be required to station monitors and/or post sign at road intersections, prohibiting public access, where the general public is likely to access the race course. A Federal Register notice providing authority to close race areas in the Ely and Las Vegas Field Offices will be issued on an as-needed basis. This will allow Bureau law enforcement officers to enforce regulations. A legal notice will be published in the local newspapers, or other appropriate publication, before the permitted events take place.
10. During race activities, any desert tortoises found on or adjacent to the race course shall be moved into undisturbed desert within 1,000 feet by Bureau personnel experienced and trained in the handling of tortoises or Bureau contractors experienced and trained in the handling of tortoises according to current approved protocol. This protocol is found in **Guidelines for Handling Desert Tortoises During Construction Projects** (Desert Tortoise Council, 1994). Tortoises shall be deliberately moved solely for the purpose of moving them out of harm's way. Desert tortoises shall not be placed on lands not under the ownership of the Federal Government without the written permission of the landowner. All personnel involved in tortoise capture shall obtain appropriate permits from the Nevada Division of Wildlife (NDOW) prior to handling any desert tortoise.
11. Mitigation measures 1, 2, 7, 8, 10, 13, and 14 shall apply to publicity runs and mini-events.

Because mini-events are held in conjunction with larger race events, mitigation measures 3, 5, 7, and 15 already will be in effect.

On publicity runs, event-related vehicular activity will be confined to authorized routes and the course itself, and will not stray into vegetated areas.
12. To the extent possible, the race course shall be cleared of all unauthorized vehicles and personnel prior to each race.
13. A representative shall be designated who will be responsible for overseeing compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in the Biological Opinion. The designated representative shall provide coordination among the permit holder, the Bureau, and the Service.
14. Participants in each race who violate any stipulation for that event shall be disqualified from the race. Additionally, failure to comply with the above stipulations by any member of the support team or spectators associated with a particular driver or rider shall result in the disqualification of that driver or rider.

15. To help control spectators, the event promoter will station at least one person at the primary entrance to the spectator area for at least 2 hours before the start of the race and one hour after the start of the race. This individual will stop all cars coming into the area, give the occupants information on the limits of the spectator area, and advise them where they can and cannot park.
16. All road repair and course cleanup crews shall be accompanied by Bureau personnel or their designee to ensure that no tortoises or tortoise burrows are harmed during repair and cleaning operations.
17. Participants will be informed that passing on buggy, ATV, and motorcycle courses will be limited to the disturbed areas of roads, trails, and washes and will not occur in vegetated areas adjacent to the course.
18. Additional stipulations or modifications may be required based on terms and conditions in the biological opinion issued for a particular event (or programmatic opinion valid at the time of the event).

APPENDIX E

STANDARD OPERATING PROCEDURES AND CONDITIONS OF OPERATIONS FOR LANDS AND MINERALS

Permitting

1. The operator shall furnish a map showing where the exploration and/or operation will take place. The map shall be of a minimum scale of 1/2 inch to the mile.
2. All areas that are going to receive surface disturbance from the operation must have a tortoise inventory, conducted by a consulting biologist approved by the Authorized Officer. Inventory will be conducted as follows:
 - a) All appropriate Nevada Division of Wildlife permits for handling desert tortoises and their parts must be acquired by the tortoise biologists before construction and prior to handling any desert tortoise or part.
 - b) All construction sites, access routes, staging areas, fence line, etc., will be cleared by a qualified biologist before the start of construction. The parcel shall be surveyed for desert tortoise using survey techniques which provide 100% coverage. During the tortoise active season, the preconstruction clearance shall be no more than 3 days before initiation of construction. During the tortoise inactive season (October 15 through March 15) the preconstruction clearance shall be within 10 days before work begins.
 - c) Tortoises and nests found on the project area shall be relocated by a qualified tortoise biologist in accordance with USFWS approved protocol (Desert Tortoise Council 1994). Burrows containing tortoises or nests will be evacuated by hand with hand tools to allow removal of the tortoise or eggs.
 - d) Tortoises that are moved off-site and released into undisturbed habitat on public land, must be placed in the shade of the shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow.
 - e) Desert tortoises moved in the winter (i.e., October 15 through March 15) or those in hibernation regardless of date must be placed into an adequate burrow; if one is not available, one will be constructed utilizing the protocol for burrow in section B.5.f. of the USFWS approved guidelines (Desert Tortoise Council 1994).
3. Consultation with the USFWS is required per Section 7 of the Endangered Species Act before the project can be approved if the bureau determines that the proposed action may affect the desert tortoise. If consultation determines that an adverse impact to the desert tortoise or its habitat will occur, the proposal must be modified or denied per appropriate regulations.
4. Operators submitting a notice for activities within desert tortoise habitat will be informed by BLM of their responsibilities to comply with specific provisions of the Endangered Species Act.
5. The operator of mineral actions will conform to all Federal and State laws and regulations, including terms and conditions of biological opinions.
6. Prior to the issuance of any material contract, free use permit, material site right-of-way, letter of authorization to conduct sampling and testing, FLPMA right-of-way or Land Use Authorization, all

applicants could pay a Section 7 fee for the on-site and off site mitigation of desert tortoise habitat or rehabilitated desert tortoise habitat. The fee amount will be determined by the Authorized Officer.

7. Temporary road for explorations and operations will be closed to the public by use of gates, signs or other barrier of entry. These roads will be reclaimed once use is over.

Exploration

1. Unless otherwise authorized, access to mineral operations will be limited to the existing roads and trails. Any cross country travel will have a qualified biologist monitor for tortoise and move them as needed.
2. Flagging, wire, and other debris will be removed at the end of operation. Trash and debris will be controlled to insure no digestion from desert tortoise. No oil or other fluid materials shall be drained onto the ground surface.
3. Vibriosis, drill hole shot or surface shot will not be completed within 100 yards of known tortoise burrows.
4. Unless authorized, construction or maintenance of roads within designated ACECs is prohibited. Additional roads, if needed, shall be kept to an absolute minimum and the location of the routes must be approved by the Authorized Officer prior to construction.
5. Geophysical, mineral materials and non-energy minerals activity and explorations will be allowed from October 15 to March 15.
6. Geophysical exploration will be allowed only on existing roads and/or trails within designated ACECs.
7. No blading or other dirt work will be allowed without prior approval of the authorized officer.
8. Access road construction for exploration should be planned such that a permanent road can later be constructed in the event of development.

Construction

1. The project applicant shall notify the Authorized Officer at least 10 days before initiation of the project. Notification shall be made to the wildlife staff at (702) 726-8100 or (702) 289-1842.
2. The Authorized Officer and the USFWS must be notified of any desert tortoise death or injury due to the project implementation by close of business the following business day of which the incident occurred. The BLM point of contact is the wildlife staff at (702) 726-8100 or (702) 289-1842.
3. A litter control program shall be implemented, by the applicant, to minimize predation on tortoises by ravens. This program will include the use of covered, raven proof trash receptacles, removal of trash from construction site following the close of each workday. Trash must be properly disposed of in an approved solid waste disposal facility.
4. If possible, overnight parking and storage of equipment and materials, including stockpiling, shall be in previously disturbed areas within the designated area.
5. All vehicle traffic will be restricted to existing access roads where possible. New access roads will be created only when absolutely necessary and only when approved by the Authorized Officer and the Service. Cross-country vehicle travel is not allowed unless there is no other alternative.

6. The construction site will be clearly marked or flagged at the outer boundaries before the onset of construction. All activities shall be confined within the designated areas.
7. During construction activities, tortoise burrows should be avoided whenever possible.
8. If a tortoise is found during construction or operation and is located in harms way, all potentially harmful activity shall cease until the tortoise moves out of harms way. It can be moved in accordance with terms and conditions of the biological opinion, which requires a qualified tortoise biologist.
9. Blading of vegetation shall be confined to that area designated and only to the extent necessary.
10. Proposed actions will not require fencing unless otherwise identified in the NEPA process.
11. The project applicant must submit in writing a report within 30 days of completion of the project showing the number of tortoises moved (including out of harms way), injured, or killed (total take) during project implementation.
12. A qualified biologist must be present during construction from March 15 through October 15 to insure that desert tortoises are not inadvertently harmed. The biologist must check construction areas immediately before construction activities.
13. During construction, if trenches or holes are to remain open overnight during the period of March 15 through October 15, they will be checked for tortoises at the end and beginning of each workday. The trenches or holes shall also be checked immediately prior to backfilling.
14. Construction and maintenance of right-of-ways road would occur on existing roads unless otherwise authorized by the Land Management Agency.

Operations

1. No class III land fills will be allowed within any designated ACECs.
2. All surface disturbing mineral operations will be fenced with tortoise proof fence.
3. A portable mud pit shall be used when drilling with fluids.
4. All proposed surface disturbance and vehicular travel will be limited to the approved operation plan and access route.
5. Petroleum products such as gasoline, diesel fuel, helicopter fuel, and lubricants will be containerized in approved containers. Hazardous materials shall be properly stored in separate containers to prevent mixing, drainage, or accidents.
6. Prior to starting operations each day on any lands or energy and minerals operation which has not been totally enclosed by tortoise proof fencing and cattle guards, the operator will be responsible for assuring a desert tortoise survey is conducted by qualified desert tortoise biologists using techniques approved by the

USFWS and BLM to make an inspection to determine if any desert tortoises are present. The inspection will be conducted as follows:

- a. around and under all equipment;
- b. in and around all disturbed areas to include stockpiles and reject materials areas;
- c. In and around all routes of ingress and egress;
- d. In and around all other areas where the operation might expand to during that day.

If a tortoise is discovered during this inspection or later in the day, the Operator will immediately cease all operations in the immediate vicinity of the tortoise and will immediately notify the Authorized Officer. The tortoise will be left unharmed and will not be touched. Operations will remain stopped until approval to proceed is granted by the Authorized Officer.

7. All trash, flagging, lath, etc. will be removed and hauled to an authorized disposal site. No oil or lubricants shall be drained onto the ground surface. Trash will be retained in portable trash cages. Burning will not be allowed on the well site.
8. Upon determination of an impending field development, a transportation plan will be requested to reduce unnecessary access roads.
9. Companies controlling new road segments may be required to restrict access to the general public. This access could be in the form of closed gates and these restrictions will not apply to legitimate, authorized agents of the operator or their subcontractor(s), the land managing agency and other agencies with a legitimate need.

Reclamation

1. Reclamation will normally be accomplished with native seeds only. These will be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected non natives must be documented. Possible exceptions could include use of non-natives for a temporary cover crop to out compete weeds. Where large acreages are burned by fire and seeding is required for erosion control, all native species can be cost prohibitive and/or unavailable. In all cases seed mixes will be approved by the authorized officer prior to planting.
2. Seeding will occur during November 15 to March 15 to insure a greater chance of success.
3. Reclamation release criteria is as follows:

100% of the perennial plant cover of selected comparison areas, normally like adjacent habitat. If the adjacent habitat is severely disturbed, a range site description may be used as a cover standard. Cover is normally crown cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST-96/002+1730. The reclamation plan for the area project should identify the site specific release criteria and associated statistical methods in the reclamation plan or permit.

No noxious weeds will be allowed on the sites for reclamation release. Any noxious weeds that become established will be controlled. A list of Nevada noxious weeds is attached.

4. All available growth medium will be salvaged and stockpiled prior to disturbance. Stock piles will be seeded if left for more than one growing season. All disturbance areas will be recontoured to blend as nearly as possible with the natural topography prior to revegetation. All compacted portions of the disturbance will be ripped to a depth of 12 inches unless solid rock. An adequate, fine grain, seed bed must

be established to provide good seed to soil contact. Large blocks and clumps of soil with deep pockets should be avoided. This normally requires some type of tillage procedure after ripping.

5. All portions of access roads not needed for other uses as determined by the authorized officer will be reclaimed.
6. Mulching of the seed-bed following seeding may be required under certain conditions, such as severe erosion.
7. The success of the vegetative growth on a reclaimed site may be evaluated for release no sooner than during the third growing season after earthwork and planting have been completed. Where it has been determined that revegetation success has not been met, the agencies and the operator will meet to decide on the best course of actions necessary to meet the reclamation goal.

Mitigation Fees

1. All surface disturbance could require a compensation fee for disturbance of tortoise habitat. Alternative compensation measures are sometimes accepted on a case-by-case basis.

NEVADA STATE WEED LIST

NOXIOUS WEEDS

<u>Rorippa austriaca</u>	Austrian fieldcress
<u>Sphaerophysa salula</u>	Austrian peaweed
<u>Alhagi camelorum</u>	camelthorn
<u>Hypericum perforatum</u>	St. Johnswort *
<u>Conium maculatum</u>	poison hemlock *
<u>Cicuta douglasii</u>	waterhemlock *
<u>Solanum elaeagnifolium</u>	white horsenettle
<u>Solanum carolinense</u>	Carolina horsenettle
<u>Centaurea diffusa</u>	diffuse knapweed *
<u>Centaurea repens</u>	Russian knapweed *
<u>Euphorbia esula</u>	leafy spurge
<u>Glueyrrhiza lepidota</u>	wild licorice *
<u>Salvia aethiopis</u>	Mediterranean sage
<u>Elvumus caput-medusae</u>	medusahead
<u>Tribulus terrestris</u>	puncturevine *
<u>Sorghum halepense</u>	Johnsongrass
<u>Linaria genistifolia</u> ssp. <u>dalmatica</u>	dalmation toadflax *
<u>Cardaria draba</u>	hoary cress (whitetop) *
<u>Lepidium latifolium</u>	tall whitetop (pepperweed) *
<u>Cirsium arvense</u>	Canada thistle *
<u>Carduus nutans</u>	musk thistle *
<u>Onopordum acanthium</u>	Scotch thistle
<u>Sonchus arvensis</u>	perennial sow thistle
<u>Centaurea iberica</u>	Iberian starthistle
<u>Centaurea calcitrapa</u>	purple starthistle
<u>Centaurea solstitialis</u>	yellow starthistle *

* Known to occur within the Ely District

ELY DISTRICT WEED LIST

<u>Centaurea virgata</u> var. <u>squarrosa</u>	squarrose knapweed
<u>Centaurea maculosa</u>	spotted knapweed
<u>Tamarix ramosissima</u>	saltcedar (Tamarisk)

INJURIOUS PLANTS WITHIN THE ELY DISTRICT

<u>Halogeton glomeratus</u>	halogeton
<u>Bromus rubens</u>	red brome
<u>Bromus tectorum</u>	cheatgrass
<u>Iva axillaris</u>	povertyweed
<u>Arctium minus</u>	burdock
<u>Cuscuta</u>	field dodder
<u>Senecio jacobaea</u>	tansy ragwort

Additional Plants of Concern within the Ely District

<u>Salsola iberica</u>	Russina thistle
<u>Sisymbrium altissimum</u>	tumble mustard

APPENDIX F

Table F-1. Ecological Site Information

ECOLOGICAL SITE INFORMATION				PRESENT SITUATION		SITE POTENTIAL ^{9/}
Study Plot	Transect Location	Ecological Site No.	Species Present ^{9/}	Species Present % Comp By Weight	Seral Stage (% of PNC) ^{4/}	Species Present % Comp By Weight At PNC
DT-1 Sand Hollow Allotment	T8S R71E Sec. 29	030XB005NV	BRRU2 ^{6/}	17	58 Mid	--
			HIRI	T ^{7/}		T-8 ^{8/}
			MUPO2	--		T-8 ^{8/}
			ORHY	T		T-8 ^{8/}
			STSP3	--		T-8 ^{8/}
			ERPU8	--		T-8 ^{8/}
			AMDU2	19		25-50
			LATR2	29		10-25
			EPNE	--		T-5
			AAFF ^{6/}	13		T-5
DT-2 Breedlove Allotment	T12S R66E Sec. 16	030XB019NV	BRRU2 ^{6/}	20	79 Mid	--
			HIRI	--		T-5 ^{2/}
			ORHY	--		T-5 ^{2/}
			ERPU8	T		T-5 ^{2/}
			LATR2	64		65-80
			AMDU2	10		5-25
			KRPA	--		T-5
			AAFF	5		T-5

- 1/ Allow no more than 3% of each species of this group and no more than 8% in aggregate.
- 2/ Allow no more than 2% of each species of this group and no more than 5% in aggregate.
- 3/ Allow no more than 3% of each species of this group and no more than 5% in aggregate.
- 4/ Seral stage is based on plant community composition as well as percentage of PNC. Ecological sites listed here can be referred to from the U.S. Soil Conservation Service Ecological Site Descriptions. These key areas lack forage composition of key species within the range site (ecological site) so seral stage is lower than the percentage of PNC indicates, except for DT-4.
- 5/ This is the percent composition and seral stage that would have the desired vegetative characteristics to optimize production, quantity, quality and variety to provide the greatest desert tortoise habitat values.
- 6/ BRRU2 is a undesirable annual grass which is indicating a deteriorating ecological site.
- 7/ Trace - is less than one percent of composition by weight.
- 8/ Total annual forb composition by weight.
- 9/ See Table F-2 for Scientific and Common Names.

Table F-1. Ecological Site Information

ECOLOGICAL SITE INFORMATION				PRESENT SITUATION		SITE POTENTIAL ^{9/}
Study Plot	Transect Location	Ecological Site No.	Species Present ^{8/}	Species Present % Comp By Weight	Seral Stage (% of PNC) ^{4/}	Species Present % Comp By Weight At PNC
DT-3 Breedlove Allotment	T12S R66E Sec. 17	030XB001NV	BRRU2 ^{6/}	30	57 Mid	--
			ERPU8	1		2-5
			HIRI	1		T-5
			ARIST	T		T-5 ^{5/}
			STSP3	--		T-5 ^{5/}
			ORHY	--		T-5 ^{5/}
			AMDU2	30		50-60
			LATR2	33		5-20
			KRPA	2		2-5
			AAFF	2		T-10
DT-4 Delamar Allotment	T11S R63E Sec. 9	030XB019NV	BRRU2 ^{6/}	T	97 PNC	--
			HIRI	--		T-5 ^{5/}
			ORHY	--		T-5 ^{5/}
			ERPU8	--		T-5 ^{5/}
			LATR2	83		65-80
			AMDU2	13		5-25
			KRPA	--		T-5
			AAFF	2		T-5

- 1/ Allow no more than 3% of each species of this group and no more than 8% in aggregate.
- 2/ Allow no more than 2% of each species of this group and no more than 5% in aggregate.
- 3/ Allow no more than 3% of each species of this group and no more than 5% in aggregate.
- 4/ Seral stage is based on plant community composition as well as percentage of PNC. Ecological sites listed here can be referred to from the U.S. Soil Conservation Service Ecological Site Descriptions. These key areas lack forage composition of key species within the range site (ecological site) so seral stage is lower than the percentage of PNC indicates, except for DT-4.
- 5/ This is the percent composition and seral stage that would have the desired vegetative characteristics to optimize production, quantity, quality and variety to provide the greatest desert tortoise habitat values.
- 6/ BRRU2 is a undesirable annual grass which is indicating a deteriorating ecological site.
- 7/ Trace - is less than one percent of composition by weight.
- 8/ Total annual forb composition by weight.
- 9/ See Table F-2 for Scientific and Common Names.

Table F-1. Ecological Site Information

ECOLOGICAL SITE INFORMATION				PRESENT SITUATION		SITE POTENTIAL ^{5/}
Study Plot	Transect Location	Ecological Site No.	Species Present ^{6/}	Species Present % Comp By Weight	Seral Stage (% of PNC) ^{4/}	Species Present % Comp By Weight At PNC
DT-5 Grapevine Allotment	T10S R64E Sec. 16	030XB019NV	BRRU2 ^{6/}	10	73 Mid	-
			HIRI	1		T-5 ^{2/}
			ORHY	--		T-5 ^{2/}
			ERPU8	--		T-5 ^{2/}
			LATR2	63		65-80
			AMDU2	2		5-25
			KRPA	--		T-5
			AAFF	13		T-5
DT-6 Gourd Spring Allotment	T12S R69E Sec. 3	030XB005NV	BRRU2 ^{6/}	11	61 Mid	-
			HIRI	--		T-8 ^{7/}
			MUPO2	--		T-8 ^{7/}
			ORHY	--		T-8 ^{7/}
			STSP3	--		T-8 ^{7/}
			ERPU8	--		T-8 ^{7/}
			AMDU2	36		25-50
			LATR2	11		10-25
			EPNE	4		T-5
			AAFF	10		T-5

- 1/ Allow no more than 3% of each species of this group and no more than 8% in aggregate.
- 2/ Allow no more than 2% of each species of this group and no more than 5% in aggregate.
- 3/ Allow no more than 3% of each species of this group and no more than 5% in aggregate.
- 4/ Seral stage is based on plant community composition as well as percentage of PNC. Ecological sites listed here can be referred to from the U.S. Soil Conservation Service Ecological Site Descriptions. These key areas lack forage composition of key species within the range site (ecological site) so seral stage is lower than the percentage of PNC indicates, except for DT-4.
- 5/ This is the percent composition and seral stage that would have the desired vegetative characteristics to optimize production, quantity, quality and variety to provide the greatest desert tortoise habitat values.
- 6/ BRRU2 is a undesirable annual grass which is indicating a deteriorating ecological site.
- 7/ Trace - is less than one percent of composition by weight.
- 8/ Total annual forb composition by weight.
- 9/ See Table F-2 for Scientific and Common Names.

Table F-1. Ecological Site Information

ECOLOGICAL SITE INFORMATION				PRESENT SITUATION		SITE POTENTIAL ^{9/}
Study Plot	Transect Location	Ecological Site No.	Species Present ^{8/}	Species Present % Comp By Weight	Seral Stage (% of PNC) ^{4/}	Species Present % Comp By Weight At PNC
DT-7 Gourd Spring Allotment	T12S R69E Sec. 3	030XB019NV	BRRU2 ^{6/}	58	35 Early	--
			HIRI	--		T-5 ^{5/}
			ORHY	--		T-5 ^{5/}
			ERPU8	--		T-5 ^{5/}
			LATR2	33		65-80
			AMDU2	--		5-25
			KRPA	--		T-5
DT-8 Gourd Spring Allotment	T12S R70E Sec. 6	030XB005NV	AAFF	9	42 Early	T-5
			BRRU2 ^{6/}	49		--
			HIRI	--		T-8 ^{4/}
			MUPO2	--		T-8 ^{4/}
			ORHY	--		T-8 ^{4/}
			STSP3	--		T-8 ^{4/}
			ERPU8	--		T-8 ^{4/}
			AMDU2	16		25-50
			LATR2	20		10-25
			EPNE	--		T-5
			AAFF	18		T-5

- 1/ Allow no more than 3% of each species of this group and no more than 8% in aggregate.
- 2/ Allow no more than 2% of each species of this group and no more than 5% in aggregate.
- 3/ Allow no more than 3% of each species of this group and no more than 5% in aggregate.
- 4/ Seral stage is based on plant community composition as well as percentage of PNC. Ecological sites listed here can be referred to from the U.S. Soil Conservation Service Ecological Site Descriptions. These key areas lack forage composition of key species within the range site (ecological site) so seral stage is lower than the percentage of PNC indicates, except for DT-4.
- 5/ This is the percent composition and seral stage that would have the desired vegetative characteristics to optimize production, quantity, quality and variety to provide the greatest desert tortoise habitat values.
- 6/ BRRU2 is a undesirable annual grass which is indicating a deteriorating ecological site.
- 7/ Trace - is less than one percent of composition by weight.
- 8/ Total annual forb composition by weight.
- 9/ See Table F-2 for Scientific and Common Names.

Table F-1. Ecological Site Information

ECOLOGICAL SITE INFORMATION				PRESENT SITUATION		SITE POTENTIAL ^{9/}
Study Plot	Transect Location	Ecological Site No.	Species Present ^{4/}	Species Present % Comp By Weight	Seral Stage (% of PNC) ^{4/}	Species Present % Comp By Weight At PNC
DT-9 Beacon Allotment	T11S R70E Sec. 16	030XB019NV	BRRU2 ^{6/}	36	41 Early	--
			HIRI	--		T-5 ^{2/}
			ORHY	--		T-5 ^{2/}
			ERPU8	--		T-5 ^{2/}
			LATR2	37		65-80
			AMDU2	--		5-25
			KRPA	--		T-5
			AAFF	26		T-5

- 1/ Allow no more than 3% of each species of this group and no more than 8% in aggregate.
- 2/ Allow no more than 2% of each species of this group and no more than 5% in aggregate.
- 3/ Allow no more than 3% of each species of this group and no more than 5% in aggregate.
- 4/ Seral stage is based on plant community composition as well as percentage of PNC. Ecological sites listed here can be referred to from the U.S. Soil Conservation Service Ecological Site Descriptions. These key areas lack forage composition of key species within the range site (ecological site) so seral stage is lower than the percentage of PNC indicates, except for DT-4.
- 5/ This is the percent composition and seral stage that would have the desired vegetative characteristics to optimize production, quantity, quality and variety to provide the greatest desert tortoise habitat values.
- 6/ BRRU2 is a undesirable annual grass which is indicating a deteriorating ecological site.
- 7/ Trace - is less than one percent of composition by weight.
- 8/ Total annual forb composition by weight.
- 9/ See Table F-2 for Scientific and Common Names.

Table F-2. Scientific and Common Names for Species

SPECIES CODE	SCIENTIFIC NAME	COMMON NAME
AAFF	N/A	annual
AMDU2	<i>Ambrosia dumosa</i>	white bursage
ARIST	<i>Aristida</i>	threeawn
BRRU2	<i>Bromus rubens</i>	red brome
EPNE	<i>Ephedra nevadensis</i>	Nevada Ephedra
ERPU8	<i>Erioneuron pulchellum</i>	fluffgrass
HIRI	<i>Hilaria rigida</i>	big galleta
KRPA	<i>Krameria parvifolia</i>	range ratany
LATR2	<i>Larrea tridentata</i>	cresotebush
MUPO2	<i>Muhlenbergia porteri</i>	bush muhly
ORHY	<i>Oryzopsis hymenoides</i>	Indian ricegrass
STSP3	<i>Stipa speciosa</i>	desert needlegrass

APPENDIX G

Appendix G: Summary of forage species consumed by desert tortoise determined through observation or fecal analysis.

SPECIES	STUDY	SPECIES OR GENUS PRESENT DURING ESI	LIVESTOCK USE**
<u>NATIVE, ANNUAL, FORBS</u>			
Bluedick (<i>Dichelostemma pulchellum</i>)	1		
Bristly fiddleneck (<i>Amsinckia tessellata</i>)	1		
(<i>Camissonia boothii</i>)	1,3	XX	
Combseed spp. (<i>Pectocarya platycarpa</i>)	1		
Chorizanthe spp. (<i>Chorizanthe thurberi</i>)	1	XX	
Chorizanthe (<i>C. rigida</i>)	2	XX	
Crazyweed spp. (<i>Oxytheca perfoliata</i>)	1		
Cryptantha spp.	1,5	XX	
(<i>Cryptantha nevadensis</i> & <i>micrantha</i>)			
Cryptantha (Matted)	1,2	XX	
(<i>Cryptantha circumscissa</i>)			
Eriophyllum spp. (<i>Eriophyllum wallacei</i>)	2	XX	
Foothill deervetch (<i>Lotus humistratus</i>)	1		
Freemont phacelia (<i>Phacelia fremontii</i>)	2	XX	
Gilia (<i>Gilia</i> spp.)	1	XX	
Goldpoppy (<i>Eschscholzia minutiflora</i>)	1,4		
Island indianwheat (<i>Plantago insularis</i>)	2,4	XX	
Kochia (<i>Kochia</i> spp.)	2		
Langloisia (<i>Langloisia schottii</i>)	1	XX	
Lupine (<i>Lupinus</i> spp.)	1		
Lupine (<i>Lupinus flavoculatus</i>)	1		
Lupine (<i>Lupinus concinnus</i>)	1		
Mentzelia spp. (<i>Mentzelia obscura</i>)	1		
Mentzelia (<i>Mentzelia obscura</i>)	1		
Moth langloisia (<i>Langloisia setosissima</i>)	3		
Phacelia (<i>Phacelia</i> spp.)	1	XX	
Plantain (<i>Plantago</i> spp.)	1,4,5	XX	
Shaggyfruit pepperweed	2	XX	
(<i>Lepidium lasiocarpum</i>)			
Skeletonweed erigonum	2,4	XX	
(<i>Eriogonum deflexum</i>)			
Watson cryptantha (<i>Cryptantha pterocarya</i>)	1	XX	

*These species may have been accidentally ingested, their significance in the tortoise diet is probably marginal.

**Livestock fecal analysis indicating tortoise/livestock diet overlap (Combs 1979).

1 - (Rakestraw D.L., et al. 1995), 2 - (Coombs E.M. 1979), 3 - (Nagy, K.A. and P. Medica 1986), 4 - (Ohmart R.D. and J. Hohman 1979), 5 - (NERC, 1990),

Appendix G: Summary of forage species consumed by desert tortoise determined through observation or fecal analysis.

SPECIES	STUDY	SPECIES OR GENUS PRESENT DURING ESI	LIVESTOCK USE**
<u>NATIVE, PERENNIAL, FORB</u>			
Dalea (Dalea spp.)	1		
Desertrumpet (Eriogonum inflatum)	1,2,4	XX	
Euphorbia spp. (Euphorbia albomarginata)	1,2		
Four-o' clock (Mirabilis spp.)	2*		
Globemallow, desert (Sphaeralcea ambigua)	1,5,6		XX
Globemallow, gooseberryleaf (S. grossulariaefolia)	2		XX
Liliaceae	1		
Mariposa lily (Calochortus flexuosus)	1		
Pricklypoppy (Argemone spp.)	1		
Purslane (Potentilla spp.)	2*		
Tansymustard (Descurainia spp.)	1		
Tansymustard, Pinnate (D. pinnata)	2		
Wild garlic (Allium vineale)	3		
Wirelettuce (Stephanomeria spp.)	1		
<u>NATIVE, ANNUAL, PERENNIAL, FORB</u>			
Boraginaceae	1		
Eveningprimrose (Oenothera spp.)	1,2*		
Milkvetch (Astragalus layneae & spp.)	1,2	XX	
Polemoniaceae	1		
Thistle (Crisium spp.)	1		
Composite	2		
<u>EXOTIC, ANNUAL FORB</u>			
Cutleaf filaree (Erodium cicutarium)	1,2,4,		XX
<u>NATIVE, ANNUAL, PERENNIAL, SHRUB, FORB</u>			
Brassicaceae	1		
Legumes	1		
Malvaceae	1		

*These species may have been accidentally ingested, their significance in the tortoise diet is probably marginal.

**Livestock fecal analysis indicating tortoise/livestock diet overlap (Combs 1979).

1 - (Rakestraw D.L., et al. 1995), 2 - (Coombs E.M. 1979), 3 - (Nagy, K.A. and P. Medica 1986), 4 - (Ohmart R.D. and J. Hohman 1979), 5 - (NERC, 1990), sque 1986)

Appendix G: Summary of forage species consumed by desert tortoise determined through observation or fecal analysis.

SPECIES	STUDY	SPECIES OR GENUS PRESENT DURING ESI	LIVESTOCK USE**
<u>NATIVE, ANNUAL, GRASS</u>			
Sixweeks fescue (<i>Vulpia octoflora</i>)	1		XX
Bush muhly (<i>Muhlenbergia porteri</i>)	1,2,5		XX
Desert needlegrass (<i>Stipa speciosa</i>)	1,2		XX
Fluffgrass (<i>Erioneuron pulchellum</i>)	1,4,6	XX	
Galleta (<i>Hilaria jamesii</i>)	1,2,6		XX
Indian ricegrass (<i>Oryzopsis hymenoides</i>)	1,2,3	XX	XX
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1,2		XX
Squirreltail (<i>Sitanion</i> spp.)	1		
Purple threeawn (<i>Aristida purpurea</i>)	1,2	XX	XX
Tridens (<i>Tridens pilosus</i> & <i>pulchella</i>)	2		XX
<u>EXOTIC, ANNUAL, GRASS</u>			
Cheatgrass (<i>Bromus tectorum</i>)	1,2		
Red brome (<i>Bromus rubens</i>)	1-5	XX	XX
Mediterranean grass (<i>Schismus</i> spp.)	4	XX	
<u>NATIVE, PERENNIAL, SHRUB</u>			
Big sagebrush (<i>Artemisia tridentata</i>)	1		
Blackbrush (<i>Coleogyne ramomissima</i>)	2		
Broom snakeweed (<i>Gutierrezia sarothrae</i>)	2*		
Catclaw (<i>Acacia greggii</i>)	2*		
(<i>Ceratoides lanata</i>)	1,2		
Common pricklygilia (<i>Leptodactylon pungens</i>)	1,2*		
Croosotebush (<i>Larrea tridentata</i>)	1,2*	XX	XX
Ephedra (<i>Ephedra</i> spp.)	1		XX
Ephedra, Nevada (<i>Ephedra nevadensis</i>)	2*	XX	XX
Fourwing saltbrush (<i>Atriplex canescens</i>)	2		XX
Range ratany (<i>Krameria parvifolia</i>)	1,2	XX	XX
Sand sagebrush (<i>Artemisia filifolia</i>)	2*		
Shadscale (<i>Atriplex confertifolia</i>)	1		XX
Spiny hopsage (<i>Grayia spinosa</i>)	1		
White burrobrush (<i>Hymenoclea salsola</i>)	1		
(Esque 1986)			

*These species may have been accidentally ingested, their significance in the tortoise diet is probably marginal.

**Livestock fecal analysis indicating tortoise/livestock diet overlap (Combs 1979).

1 - (Rakestraw D.L., et al. 1995), 2 - (Coombs E.M. 1979), 3 - (Nagy, K.A. and P. Medica 1986), 4 - (Ohmart R.D. and J. Hohman 1979), 5 - (NERC, 1990), Esque 1986)

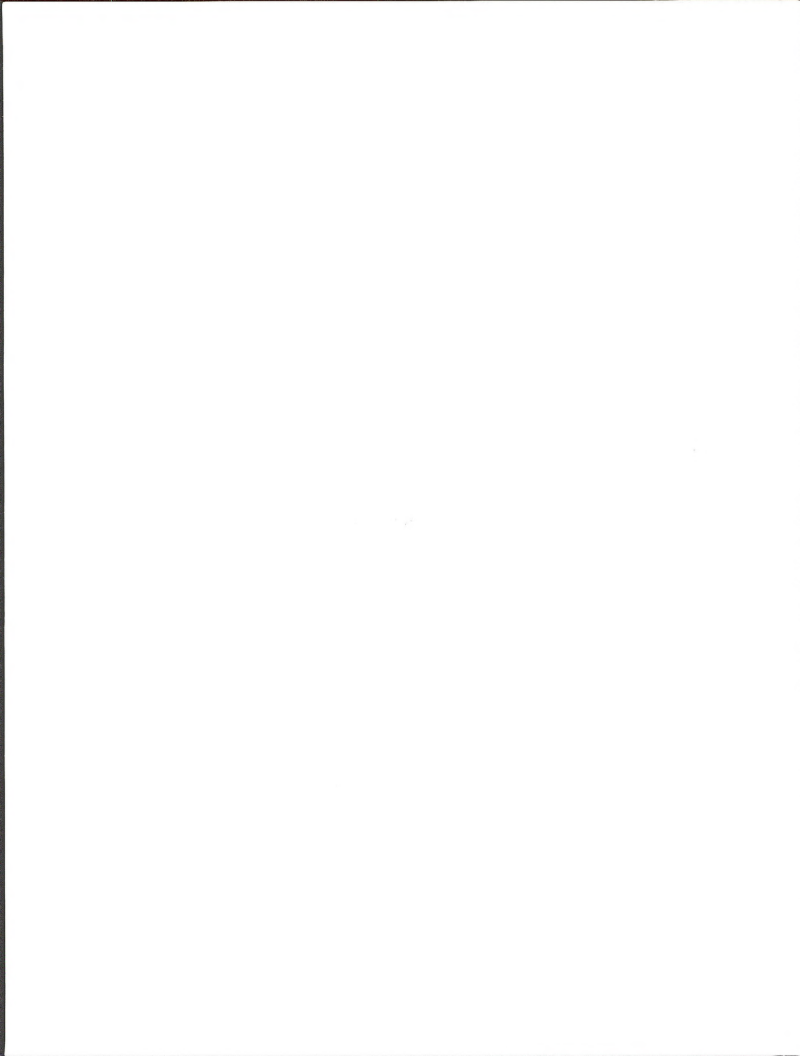
Appendix G: Summary of forage species consumed by desert tortoise determined through observation or fecal analysis.

SPECIES	STUDY	SPECIES OR GENUS PRESENT DURING ESI	LIVESTOCK USE**
<u>NATIVE, PERRENIAL, CACTUS</u>			
Beavertail pricklypear (Opuntia basilaris)	2,6	Sp	
Cactus (Opuntia spp.)	1		
<u>OTHER</u>			
Lichen	1		

*These species may have been accidentally ingested, their significance in the tortoise diet is probably marginal.

**Livestock fecal analysis indicating tortoise/livestock diet overlap (Combs 1979).

1 - (Rakestraw D.L., et al. 1995), 2 - (Coombs E.M. 1979), 3 - (Nagy, K.A. and P. Medica 1986), 4 - (Ohmart R.D. and J. Hohman 1979), 5 - (NERC, 1990)
6 - (Esque 1986)



APPENDIX H

Grazing Management Terms and Conditions for those Areas Outside of ACECs

1. Grazing will be permitted as long as forage utilization does not exceed 40 percent on key perennial grasses, forbs and shrubs, between March 15 to October 15. Manage livestock grazing between October 15 and March 15 so that forage utilization does not exceed 50 percent on key perennial grasses and 45 percent on key shrubs and perennial forbs in those same areas.
2. All vehicle use in desert tortoise habitat shall be restricted to existing roads and trails, unless authorized by the authorized officer. An example of vehicle use off roads or trails would be for maintenance or construction of an range improvement, which would be subject to section 7 consultation with USFWS.
3. Use of hay or grains as a feeding supplement shall be prohibited in desert tortoise habitat to avoid the introduction of non-native plant species. Mineral, protein and salt blocks are authorized subject to 43 CFR section 4130.3-2(c).
4. The payment of grazing fees are due on the due date specified on the grazing fee bill. Failure to pay the grazing fee bill within 15 days of the due date specified in the bill shall result in a late fee assessment of \$25.00 or 10 percent of the grazing bill, whichever is greater, but not to exceed \$250.00.
5. Applications for changes in grazing use must be in written form and received by the Bureau of Land Management Office no later than 15 days prior to the desired date of change. Applications for changes in grazing use which require the issuance of a replacement or supplemental billing notice shall be subject to a ten (10) dollar service charge.
6. Grazing applications will be issued on a yearly basis, if you do not sign and return your grazing application by the date specified on the application you will receive a bill for all of your active livestock grazing permitted use. If you wish to place all or a portion of your active livestock grazing use into non-use for the grazing year, you must indicate this in writing on your grazing application, along with your reasons.
7. Signed Actual Use Statements are due annually to the Caliente Field Office within 15 days after completing annual grazing use. In the case of year round grazing, Actual Use Statements must be received in our office by March 15.
8. The term Federal grazing permit is subject to cancellation, suspension, or modification for any violation of the Code of Federal Regulations or specified terms or conditions of this permit.
9. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the authorized officer by telephone, with written confirmation, immediately upon discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4 (C) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.
10. Trash and garbage associated with livestock grazing shall be removed and disposed of off site in a designated facility.

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Proposed, Caliente
management framework plan

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